Addendum No. 5
PCB Cleanup Plan
Former Compressor Building

Perimeter Soil and Porous Surfaces Characterization Report

Former USA Petrochem Facility
4777 Crooked Palm Road
Ventura, California

Prepared for:

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August 11, 2016
Revision 2

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Preface

This addendum updates the *PCB Cleanup Plan, Former Compressor Building, Former USA Petrochem Refinery, 4777 Crooked Palm Road, Ventura, California, Revision 1* dated July 14, 2015 (hereinafter referred to as Cleanup Plan). The Cleanup Plan addresses the overall approach to the remediation of PCBs at the Compressor Building and is based on meetings and subsequent discussions with representatives of USEPA Region 9 (EPA). The Cleanup Plan (Revision 1) was approved by EPA August 26, 2015, and work was initiated in October 2015.

The Cleanup Plan described an iterative approach to address PCB contamination at the Compressor Building site. ***The following issues have been addressed prior to publication of this Addendum No. 5***:

1. An interim cleanup activity was initially performed to remove Bulk PCB Remediation Waste (loose soil and gross residues) to permit subsequent characterization sampling of porous and non-porous surfaces underlying these materials. This work was completed in February 2016.
2. A limited characterization sampling effort focusing on porous coatings (i.e., paint) on non-porous surfaces (metal) was conducted following the interim gross residue removal described above. The intent of this sampling was to determine if paint present on metal surfaces throughout the Compressor Building possessed surficial PCB contamination warranting further decontamination or offsite disposal. This sampling showed that painted steel diamond plate floor coverings contained PCB residues up to 4.62 mg/kg. Remaining samples of painted metal surfaces did not contain PCBs. Painted steel diamond plate will be removed and disposed offsite as non-hazardous PCB Remediation Waste at a municipal solid waste landfill upon demolition. Other painted metal will be salvaged as scrap metal during demolition. These findings were documented in *Addendum No. 1 (Rev 2)* to the Cleanup Plan dated April 13, 2016.
3. Asbestos-cement panels (Transite) present on the exterior and roof of the Compressor Building was evaluated by wipe sampling to determine if PCB impacts were present. No PCBs were found and these materials underwent asbestos abatement and offsite disposal during the interim cleanup activity. *Addendum No. 2 (Rev 1)* dated December 1, 2015 documented these findings.
4. Oil contained in the two remaining compressors present in the Compressor Building was sampled and the interior surfaces of the compressors were wipe sampled to assess if PCBs were present. No PCBs were found and no further decontamination of the compressor interiors is required. This work was documented in *Addendum No. 3* to the Cleanup Plan November 17, 2015.
5. A number of pipes are present throughout the Compressor Building that may contain PCB residues. As an alternative to sampling the interiors of pipes prior to demolition, Destrier proposed to inspect pipes as they are demolished and staged and processed for removal from the facility. The inspection will focus on the visual identification of any pipes that appear to contain oily material. If such pipes are identified, these will be segregated and a sample will be collected to ascertain if the pipe may contain PCBs. This proposal was documented in *Addendum No. 4* to the Cleanup Plan dated November 11, 2015.

1.0 Introduction

1.1 Purpose

This addendum (*Addendum No. 5, Revision 1*) describes PCB sampling and analysis conducted in May and June 2016 to characterize soil and porous surfaces at the former Compressor Building where Bulk PCB Remediation Waste was removed during the interim cleanup activity described above. This characterization included soil and asphalt surrounding the perimeter of the Compressor Building as well as porous surfaces including concrete equipment foundations, the concrete slab present in the crawl space, the elevated concrete floor deck slab, and various concrete slabs surrounding the building perimeter. This characterization effort also addressed waste profiling and characterization for cadmium (Cd) and lead (Pb) contaminants present on these surfaces at the Compressor Building.

This addendum provides a remediation plan and disposal recommendations to address PCB and Pb impacted soil, asphalt and concrete identified during the recent characterization sampling. Confirmation sampling plans for areas to be remediated is also included as a part of this addendum. Finally, this addendum also includes a plan for the further characterization of soil underlying the Compressor Building following demolition.

Compressor Building Floor Deck

Other characterization and cleanup activities are ongoing at the site including work at the former above ground tank locations, Tank G and Tank F. These activities are further addressed under separate cover.

References to regulatory sections or Subparts provided herein refer to the Toxic Substances Control Act (TSCA), 40 CFR Part 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions* unless otherwise specified.

1.2 Site Description

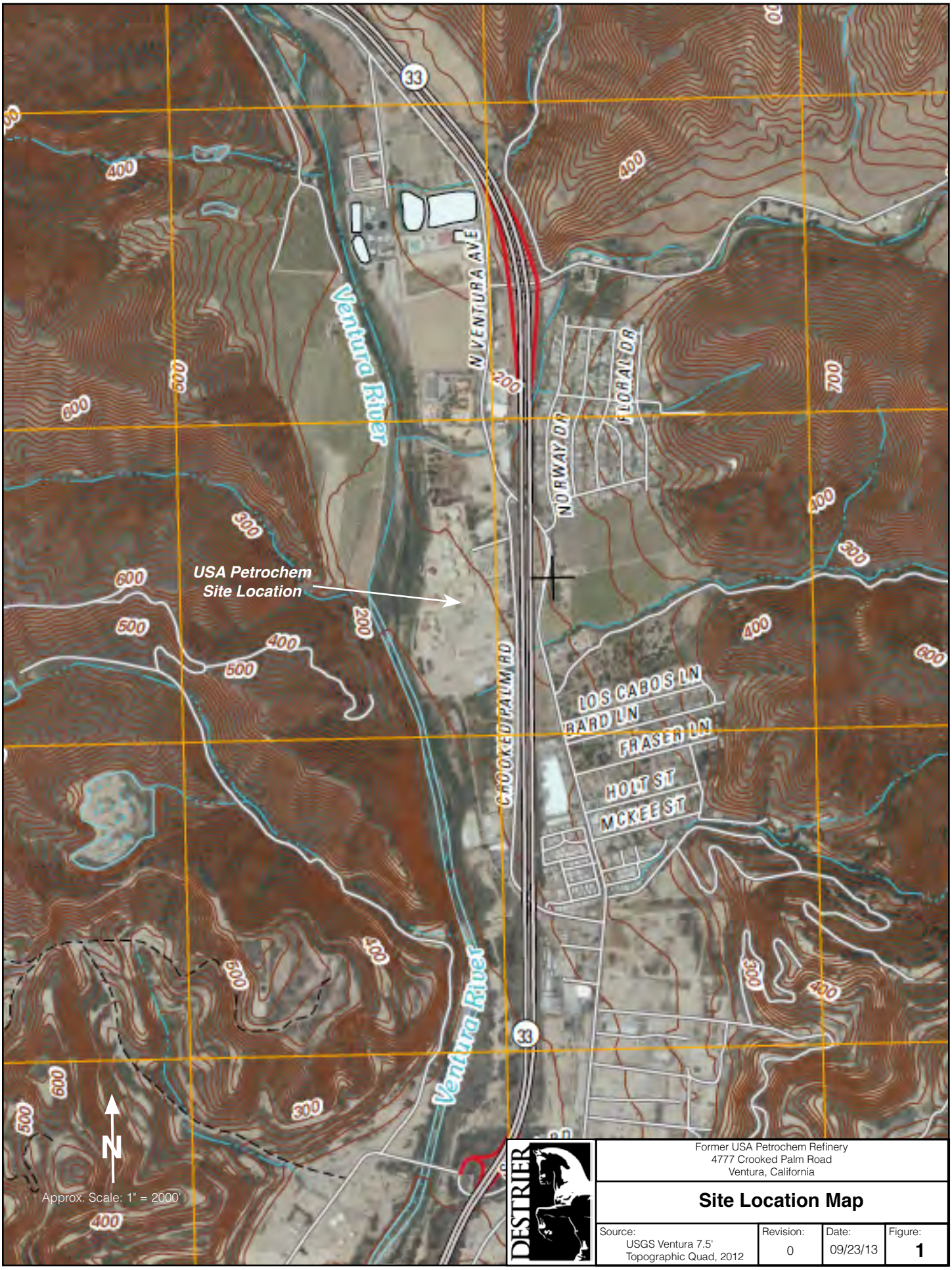
The Compressor Building (the building, the site) is located on property composed of approximately 94 acres at 4777 Crooked Palm Road in Ventura, California (see Figure 1). The building is situated in the middle of a former agricultural chemical plant (see Figure 2).

Collectively, the parcel contains a former petroleum refinery (petroleum refining units and associated former tank farms), and a former agricultural chemical manufacturing facility (an ammonia plant, a nitric acid plant, a urea plant and associated tanks and vessels). The ammonia and urea plants were constructed in 1953. The nitric acid plant was added in 1970 and was operated until the mid-1970s. The crude oil processing units and tank farm were constructed around 1975, and oil processing ceased in 1984.[1] The former refinery and refinery tank farm, and most features of the former chemical plant have been demolished, with the majority of remaining features to be demolished in future phases of work.

Compressor Building Floor Deck
(Note remaining compressors)

The Compressor Building is a steel-framed building with an elevated concrete floor deck located approximately six feet above the ground surface (see Figure 3 below). Twelve large concrete equipment foundations are located within the building footprint. Two of the foundations contain large inactive air compressors (see photo below). The remaining foundations are bare, and it is uncertain what type of equipment or machinery was historically housed on these foundations. Information obtained from former plant personnel indicate there were a total of five compressors and an assortment of other mechanical equipment once operating in the building (see Figure 4).

[1] *Preliminary Endangerment Assessment, Former USA Petroleum Facility, 4777 Crooked Palm Road, Ventura, California*, Shaw Environmental, Inc., August 2005

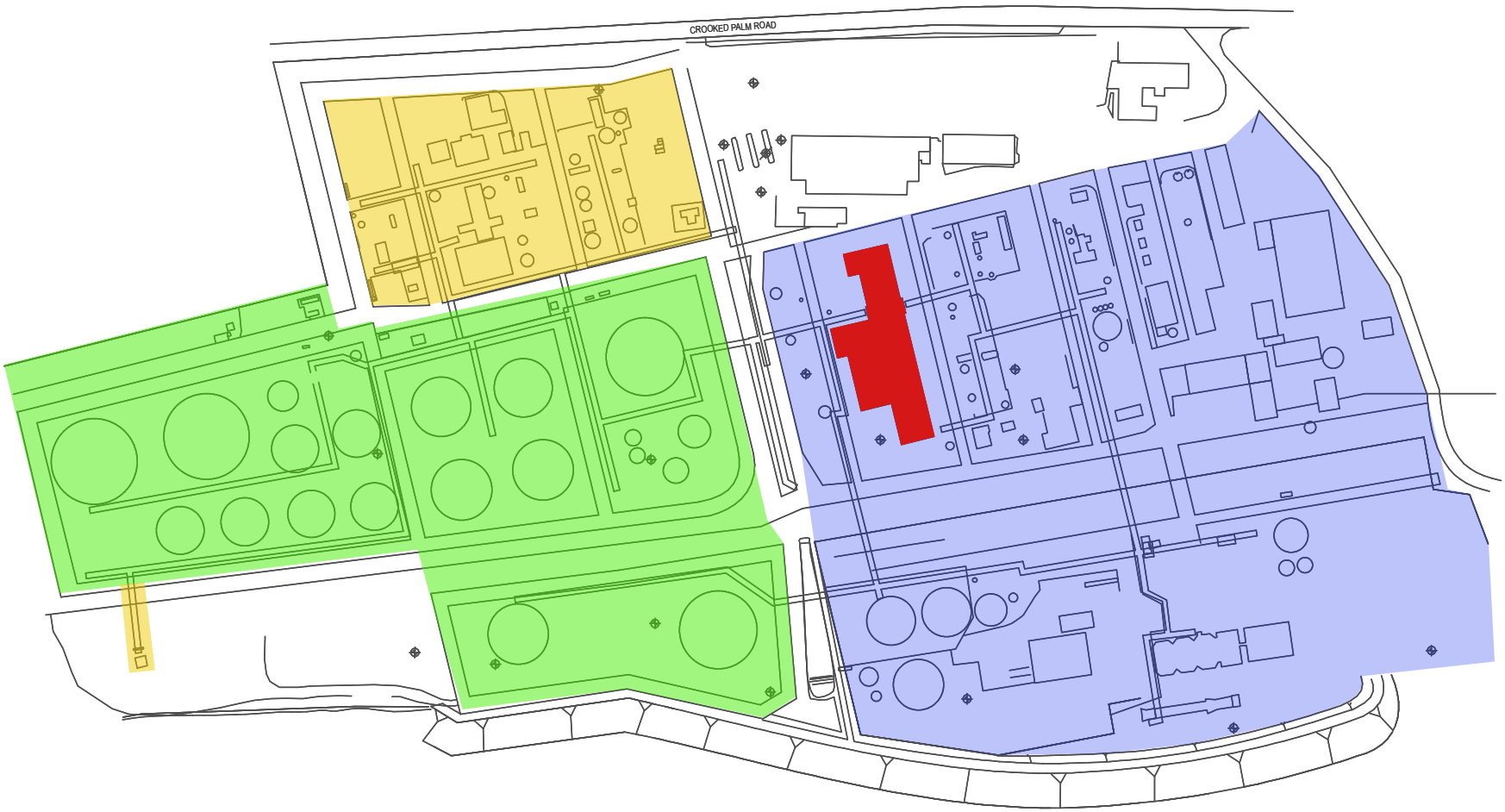


DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Site Location Map

Source:	Revision:	Date:	Figure:
USGS Ventura 7.5' Topographic Quad, 2012	0	09/23/13	1



Compressor Building

Refinery Assets (demolished)

Refinery Tank Farm (demolished)

Former Ag Chemical Plant

Support Facilities

N

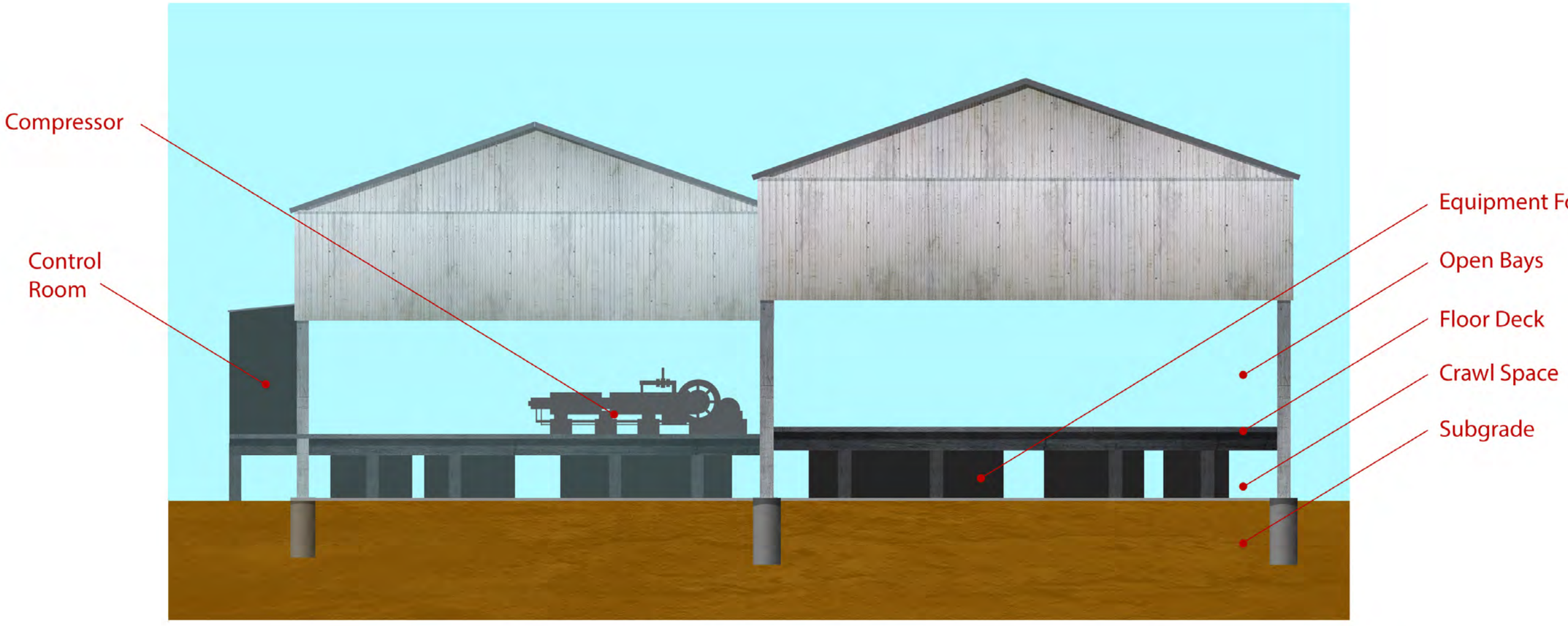
Not to Scale

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

USA Petrochem Site Layout

Source:	Revision:	Date:	Figure:
Environ Strategy Consulting, Inc.	2	04/12/16	**2**



N
Not to Scale

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Elevation

Source:	Revision:	Date:	Figure:
	1	02/20/15	**3**

LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- ×(xxx xx) Elevation
- ▲ Grid Stake Set

COMPRESSOR BUILDING GROUND LEVEL

NORTH
CCS 83

0 15 30 Feet
Scale: 1 inch = 30 feet
Vertical Datum: Ventura Co. NAVD88

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Ground Level Layout

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	06/25/16	**4**

1.3 Former "Urea Plant"

Information obtained when work began in the vicinity of the Compressor Building suggested that the process chemical unit immediately north of the Compressor Building was the former Shell Agricultural Chemicals urea manufacturing unit. However, according to a recently obtained Shell brochure published circa 1966, this process unit is actually the former ammonia manufacturing facility. This brochure noted that these ammonia facilities were constructed in 1953. We further understand this unit last operated in the mid-1970s.

Because many of the previously published work plans and reports all refer to this area as the "Urea Plant" we have kept this name for the sake of consistency. Nevertheless, we now believe this is actually the former ammonia plant. Work associated with the Compressor Building PCB cleanup extends into the footprint of the Urea Plant (ammonia plant).

Former Urea Plant

1.4 Summary of Interim Cleanup at the Former Compressor Building

1.4.1 Bulk PCB Remediation Waste (Soil)

Composite samples collected from the loose soil in the building crawl space and exterior perimeter of the building in 2014 by Dudek revealed the presence of PCBs >0.24 mg/kg.[2] The nature of the contamination (Bulk PCB Remediation Waste) found at that time was primarily in the form of very fine soil underlain by concrete pavement. In some areas surrounding the building, this Bulk PCB Remediation Waste was underlain by asphalt pavement or bare soil.

An interim cleanup operation was conducted between October 2015 and February 2016 to remove accumulations of this Bulk PCB remediation waste from the crawl space and building perimeter by scraping, shoveling, HEPA vacuuming, wet wiping and other similar manual methods. Areas underlain by concrete or asphalt were vacuumed clean. Areas underlain by bare

[2] *PCB Investigation Report, Compressor Building Soil, Former USA Petrochem Refinery, 4777 Crooked Palm Road*, Ventura, CA, Dudek, October 2014.

soil around the perimeter of the building were vacuum-excavated approximately six inches deep. The removal of Bulk PCB Remediation Waste extended to the excavation limits shown on Figure 4 (based on the 2014 sampling).

Interim Cleanup of Bulk PCB
Remediation Waste in Crawl Space Area

1.4.2 Decontamination of Gross Residues

In addition to the loose, soil-like Bulk PCB Remediation Waste present throughout the Compressor building, various oily residues were also found on porous and non-porous substrates throughout the Compressor Building. Visible oily residues were present primarily on surfaces in the floor deck level of the building above the crawl space. Oily residues (non-liquid PCB wastes) sampled in February 2014 contained PCB concentrations ranging from 0.55 mg/kg to 5.9 mg/kg. However, due to the limited number of samples collected from these residues, these materials were presumed to contain > 50 mg/kg PCBs for purposes of disposal.[3]

Gross accumulations of these materials were removed during the interim cleanup. Non-liquid PCBs were primarily removed by manually wiping or scraping. Additionally, oil-stained surfaces were swabbed with a solvent (PODF)[4] or cleaned using the "double wash/rinse" method defined in Subpart S.[5] Miscellaneous porous materials potentially contaminated with PCBs such as wood, foam and fiberglass insulation, and plastic and rubber items such as hoses and gaskets were removed and directly disposed offsite in a hazardous waste landfill in lieu of characterization or decontamination.[6]

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[3] §761.61(a)(5)(i)(B)(2)(i)

[4] §761.79(c)(2)(i)

[5] §761.79(c)(2)(ii)

[6] §761.61(a)(5)(iii), §761.61(a)(5)(i)(B)(2)(i) & §761.61(a)(5)(i)(B)(2)(iii)

Decontamination of Gross Residues
in Floor Deck Area During Interim Cleanup

1.5 Project Cleanup Levels

1.5.1 PCB Cleanup Levels

PCB Cleanup Levels are primarily dictated by 40 CFR Part 761. The goals for this project are specifically to meet the TSCA PCB cleanup levels for *High Occupancy Areas* (1 mg/kg).[7] Additionally, EPA publishes risk-based screening levels for PCBs for both residential and industrial land use scenarios. PCB cleanup levels for this project for materials to remain on site are based on the EPA Regional Screening Level (RSL) for the residential scenario of 0.24 mg/kg.[8]

1.5.2 Cadmium and Lead Cleanup Levels

In addition to PCBs, the Bulk PCB Remediation Waste and gross residues found in the Compressor Building described above in Section 1.4.1 were found to contain elevated concentrations of cadmium (Cd) and lead (Pb). These constituents are further described below in Section 3.0. The project cleanup levels for Cd and Pb for materials to remain on site are based on the California Department of Health Services (DTSC) screening levels of 5.2 mg/kg and 80 mg/kg for unrestricted/residential use, respectively.[9]

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[7] §761.61(a)(4)(i)(A)

[8] United States Environmental Protection Agency Regions 3, 6, and 9 Regional Screening Levels for Chemical Contaminants at Superfund Sites; http://www.epa.gov/risk/regional-screening-table (Accessed 01/21/2016).

[9] *DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 3,* DTSC-modified Screening Levels (DTSC-SLs), June 2016.

2.0 Characterization Methodology

2.1 Perimeter Soil and Asphalt Sampling

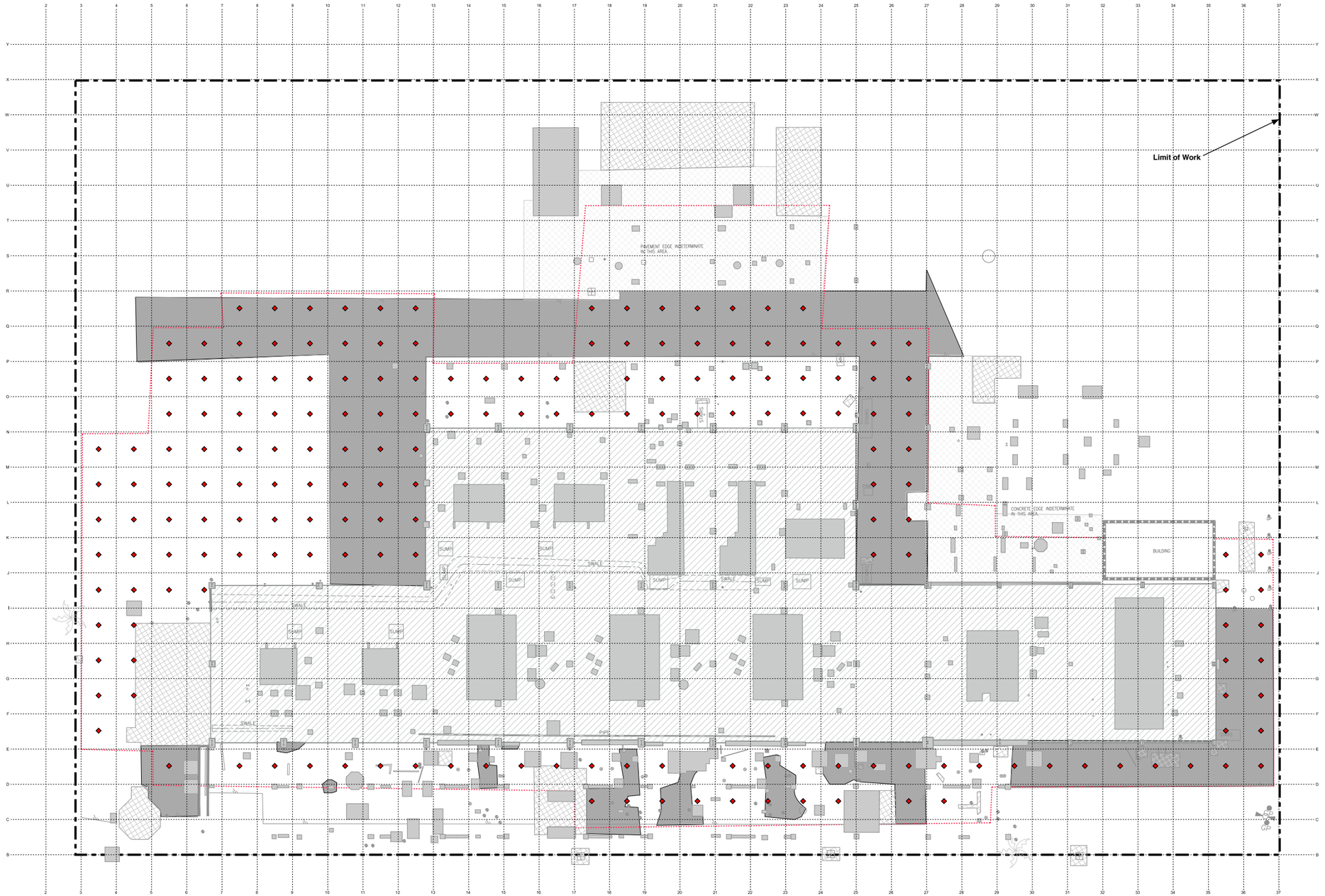
2.1.1 Establishment of Soil and Asphalt Sampling Locations

Following the interim cleanup activity described in Section 1.4, perimeter soil and asphalt areas were characterized using a three meter (3 m), square-based grid system overlain over the former footprint of the Compressor Building based on the procedures for characterizing a PCB Remediation Waste site described in Subpart N.[10] The sampling grid and excavation limits are illustrated on Figure 5. Note that the perimeter soil sample locations were shifted one-half grid from the 3 m grid established in the field during surveying of the site (shown on Figure 5). Samples were labeled by grid location (e.g., "EF36.5" indicating a sample collected at the midpoint between grid locations E and F, and 36 and 37). Duplicate sample numbers used a surrogate grid location "YZ" followed by grid numbers beginning with "37.5". Sample locations were marked in the field using surveyor whiskers, surveyor nails and metal disks, and/or painted markings at each sampling location.

Asphalt pavement present in the perimeter soil area was sampled in the same manner as bare soil in those areas where asphalt was located on a grid-based sampling point. Concrete slabs and pavements present around the perimeter of the Compressor Building were addressed as noted in Section 2.2, below.

Perimeter Soil and Asphalt
South Side of Building

[10] §761.61(a)(2) and §761.280-761.298



LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- x(xxx xx) Elevation
- Grid Stake Set
- Soil/Asphalt Sample Location

COMPRESSOR BUILDING GROUND LEVEL

NORTH CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet
Vertical Datum: Ventura Co. NAVD88
Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Perimeter Soil and Asphalt Sample Locations

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	06/25/16	**5**

2.1.2 Soil and Asphalt Sampling Methodology

One hundred eighty-five discrete surface soil and asphalt samples were collected from each location shown on Figure 5 (97 soil samples and 88 asphalt samples).

Discrete soil samples were collected using disposable plastic spoons and placed in 2 oz glass jars. Collection of discrete asphalt samples was performed using the methods described in *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs)*.[11] This method uses "*an impact hammer drill to generate a uniform, finely ground powder"* that can be collected for PCB analysis. Under this method, a hammer drill and disposable steel masonry bits were used to obtain a surface sample 3/4 inch (1.91 cm) in diameter and approximately 1 inch (2.5 cm) deep.[12] Drill cuttings were collected using a disposable plastic spoon (soda straw) and placed in 2 oz glass jars. A cluster of sample locations were drilled to obtain adequate sample volumes for subsequent laboratory analysis (a minimum sample volume of 12.5 g per sample was requested by the laboratory).

Typical Asphalt Sampling Location

Sample jars were wrapped in bubble wrap sleeves and placed in resealable plastic bags. Samples were immediately chilled to 4°C using water ice and placed in a reusable cooler provided by the laboratory. No other preservatives were used.

Field duplicate samples were collected at a frequency of 10% (19 duplicate sample locations; 9 soil and 10 asphalt). Duplicate sample locations were selected using a random number generator (random.org).

[11] *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs),* USEPA Region I, SDMS DocID 484692, May 2011.

[12] §761.286

Samples were shipped via Federal Express to ESC Lab Sciences in Mount Juliet, Tennessee. Samples were submitted for PCB extraction and analysis by gas chromatography using EPA Method 3540C/8082.[13]

Used personal protective equipment (PPE) and sampling equipment was collected in plastic trash bags and subsequently disposed as municipal solid waste per §761.61(a)(5)(v)(A).

Table 1 presents a summary of the perimeter soil and asphalt samples and randomly selected duplicates.

Asphalt Sample Collection

2.2 Concrete Sampling (Porous Surfaces)

2.2.1 Concrete Sampling Areas

Three discrete concrete areas of the Compressor Building were addressed during the porous surfaces sampling: the monolithic concrete compressor and equipment foundations, ground-level concrete in the crawl space and around the building perimeter, and the elevated concrete floor deck (see Figure 3).

The twelve monolithic, three-dimensional compressor and equipment foundations that rise from the crawl space area and penetrate the floor deck were the most highly impacted with oily residues prior to the interim cleanup operation. These foundations required adapting a coordinate-based random sampling approach that addressed the three-dimensional shape of the foundation monoliths to obtain representative samples from the four vertical sides and the horizontal top surface.[14]

[13] §761.292

[14] §761.280(c)(2)

Table 1: Perimeter Soil/Asphalt Sample Schedule

Sample ID	Media	Duplicate (Sample ID)
CD17.5	Asphalt	
CD18.5	Asphalt	
CD19.5	Asphalt	
CD20.5	Soil	YZ37.5
CD21.5	Soil	
CD22.5	Asphalt	
CD23.5	Soil	YZ38.5
CD24.5	Soil	
CD26.5	Asphalt	
CD27.5	Soil	
DE5.5	Asphalt	
DE7.5	Soil	
DE8.5	Soil	
DE9.5	Soil	
DE10.5	Soil	YZ39.5
DE11.5	Soil	
DE12.5	Soil	
DE13.5	Soil	
DE14.5	Asphalt	YZ40.5
DE15.5	Soil	
DE16.5	Soil	
DE17.5	Soil	
DE18.5	Asphalt	
DE19.5	Soil	
DE21.5	Soil	
DE22.5	Asphalt	
DE23.5	Soil	YZ41.5
DE24.5	Soil	YZ42.5
DE25.5	Asphalt	
DE26.5	Asphalt	
DE27.5	Soil	YZ43.5
DE28.5	Soil	
DE29.5	Asphalt	
DE30.5	Asphalt	
DE31.5	Asphalt	
DE32.5	Asphalt	YZ44.5
DE33.5	Asphalt	
DE34.5	Asphalt	
DE35.5	Asphalt	
DE36.5	Asphalt	
EF3.5	Soil	
EF35.5	Asphalt	
EF36.5	Asphalt	
FG3.5	Soil	
FG4.5	Soil	
FG35.5	Asphalt	
FG36.5	Asphalt	
GH3.5	Soil	
GH4.5	Soil	
GH35.5	Asphalt	
GH36.5	Asphalt	
HI3.5	Soil	
HI4.5	Soil	
HI35.5	Asphalt	
HI36.5	Asphalt	
IJ3.5	Soil	
IJ4.5	Soil	
IJ5.5	Soil	
IJ6.5	Soil	
IJ35.5	Soil	
IJ36.5	Soil	
JK3.5	Soil	
JK4.5	Soil	
JK5.5	Soil	
JK6.5	Soil	
JK7.5	Soil	
JK8.5	Soil	
JK9.5	Soil	
JK10.5	Asphalt	
JK11.5	Asphalt	
JK12.5	Asphalt	
JK25.5	Asphalt	YZ45.5
JK26.5	Asphalt	
JK35.5	Soil	
JK36.5	Soil	
KL3.5	Soil	
KL4.5	Soil	
KL5.5	Soil	
KL6.5	Soil	
KL7.5	Soil	YZ46.5
KL8.5	Soil	
KL9.5	Soil	
KL10.5	Asphalt	
KL11.5	Asphalt	
KL12.5	Asphalt	
KL25.5	Asphalt	
KL26.5	Asphalt	
LM3.5	Soil	
LM4.5	Soil	
LM5.5	Soil	
LM6.5	Soil	
LM7.5	Soil	
LM8.5	Soil	
LM9.5	Soil	
LM10.5	Asphalt	
LM11.5	Asphalt	
LM12.5	Asphalt	
LM25.5	Asphalt	
LM26.5	Asphalt	
MN3.5	Soil	
MN4.5	Soil	
MN5.5	Soil	
MN6.5	Soil	
MN7.5	Soil	
MN8.5	Soil	
MN9.5	Soil	YZ47.5
MN10.5	Asphalt	
MN11.5	Asphalt	
MN12.5	Asphalt	
MN25.5	Asphalt	
MN26.5	Asphalt	
NO5.5	Soil	
NO6.5	Soil	
NO7.5	Soil	

Table 1: Perimeter Soil/Asphalt Sample Schedule (Continued)

Sample ID	Media	Duplicate (Sample ID)
NO8.5	Soil	
NO9.5	Soil	
NO10.5	Asphalt	
NO11.5	Asphalt	
NO12.5	Asphalt	
NO13.5	Soil	
NO14.5	Soil	
NO15.5	Soil	
NO16.5	Soil	
NO17.5	Soil	
NO18.5	Soil	
NO19.5	Soil	
NO20.5	Soil	
NO21.5	Soil	
NO22.5	Soil	
NO23.5	Soil	
NO24.5	Soil	
NO25.5	Asphalt	YZ48.5
NO26.5	Asphalt	
OP5.5	Soil	
OP6.5	Soil	
OP7.5	Soil	
OP8.5	Soil	
OP9.5	Soil	
OP10.5	Asphalt	
OP11.5	Asphalt	
OP12.5	Asphalt	
OP13.5	Soil	
OP14.5	Soil	
OP15.5	Soil	
OP16.5	Soil	
OP18.5	Soil	
OP19.5	Soil	
OP20.5	Soil	
OP21.5	Soil	YZ49.5
OP22.5	Soil	
OP23.5	Soil	
OP24.5	Soil	

Sample ID	Media	Duplicate (Sample ID)
OP25.5	Asphalt	
OP26.5	Asphalt	
PQ5.5	Asphalt	
PQ6.5	Asphalt	YZ50.5
PQ7.5	Asphalt	
PQ8.5	Asphalt	YZ51.5
PQ9.5	Asphalt	
PQ10.5	Asphalt	
PQ11.5	Asphalt	
PQ12.5	Asphalt	
PQ17.5	Asphalt	
PQ18.5	Asphalt	
PQ19.5	Asphalt	
PQ20.5	Asphalt	
PQ21.5	Asphalt	YZ52.5
PQ22.5	Asphalt	
PQ23.5	Asphalt	YZ53.5
PQ24.5	Asphalt	
PQ25.5	Asphalt	
PQ26.5	Asphalt	
QR7.5	Asphalt	
QR8.5	Asphalt	
QR9.5	Asphalt	
QR10.5	Asphalt	
QR11.5	Asphalt	
QR12.5	Asphalt	
QR17.5	Asphalt	YZ54.5
QR18.5	Asphalt	YZ55.5
QR19.5	Asphalt	
QR20.5	Asphalt	
QR21.5	Asphalt	
QR22.5	Asphalt	
QR23.5	Asphalt	

Sample ID	Media	Duplicate (Sample ID)
DUPLICATE SAMPLES		
YZ37.5	Soil	CD20.5
YZ38.5	Soil	CD23.5
YZ39.5	Soil	DE10.5
YZ40.5	Asphalt	DE14.5
YZ41.5	Soil	DE23.5
YZ42.5	Soil	DE24.5
YZ43.5	Soil	DE27.5
YZ44.5	Asphalt	DE32.5
YZ45.5	Asphalt	JK25.5
YZ46.5	Soil	KL7.5
YZ47.5	Soil	MN9.5
YZ48.5	Asphalt	NO25.5
YZ49.5	Soil	OP21.5
YZ50.5	Asphalt	PQ6.5
YZ51.5	Asphalt	PQ8.5
YZ52.5	Asphalt	PQ21.5
YZ53.5	Asphalt	PQ23.5
YZ54.5	Asphalt	QR17.5
YZ55.5	Asphalt	QR18.5

The concrete present at ground level in the crawl space area of the building and the two-dimensional, elevated building floor deck area were also characterized to evaluate PCB concentrations. The concrete surfaces in these areas appeared to be most highly impacted nearest the concrete equipment foundations and appeared less impacted (stained or damaged) further away from these foundations. These surfaces were also decontaminated during the interim cleanup. Based on these observations, a characterization sampling approach using a modified (wider spaced) six meter grid-based approach was used rather than the 3 m grid prescribed in Subpart N based on the fact that concrete is scheduled to be removed and disposed offsite during demolition rather than to remain on site.[15]

Compressor Building Concrete Floor Deck Area
(Note Floor Deck Slab and Equipment Foundations)

2.2.2 Concrete Sampling Methodology

Concrete samples were collected using the methods described in *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs)*.[16] A hammer drill and disposable steel masonry bits were used to obtain a cluster of surface samples 3/4 inch (1.91 cm) in diameter and approximately 1 inch (2.5 cm) deep.[17] A minimum of 12.5 g of drill cuttings were collected using a disposable plastic spoon (soda straw) and placed in 2 oz glass jars. Reusable sampling tools were decontaminated or disposed in accordance with Section 6.4.5 of the Cleanup Plan.[18]

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[15] §761.61(a)(2) and §761.280-761.298

[16] *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs),* USEPA Region I, SDMS DocID 484692, May 2011.

[17] §761.286

[18] §761.79(c)(2)

Sample jars were wrapped in bubble wrap sleeves and placed in individual resealable plastic bags. Samples were immediately chilled to 4°C using water ice and placed in a reusable cooler provided by the laboratory. No other preservatives were used.

Field duplicate samples were collected at a frequency of 10%. Duplicate sample locations were selected using a random number generator (random.org).

Samples were shipped via Federal Express to ESC Lab Sciences in Mount Juliet, Tennessee. Samples were submitted for PCB extraction and analysis by gas chromatography using EPA Method 3540C/8082.[19]

Used PPE and sampling equipment was collected in plastic trash bags and subsequently disposed as municipal solid waste per §761.61(a)(5)(v)(A).

Typical Concrete Sampling Location

2.2.3 Concrete Equipment Foundation Sampling

Sampling locations for the concrete equipment foundations were developed by calculating the dimensions of each of the foundation surfaces (top, north, south, east, and west) in feet. These dimensions were then converted into an X-Y grid using coordinates in inches (X = north-south or horizontal, Y = east-west or vertical). The X-Y origin of the grid was established as the southwest corner (horizontal orientation) or the lower left corner (vertical orientation).

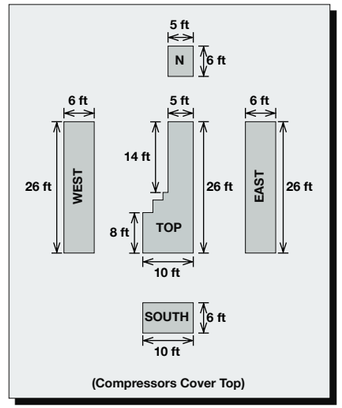
Paired coordinate sampling locations were then established on the resulting grid for each surface of the foundations. A six-inch border was excluded from each edge of the grid based on the inaccessibility of this perimeter for sampling. Paired coordinates were randomly selected using a random number generator (random.org).

Figure 6 illustrates the concrete foundation dimension calculations. Table 2 provides a summary of the concrete foundation samples and randomly selected duplicates.

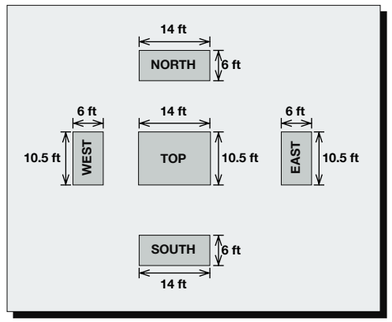
[19] §761.292

LEGEND

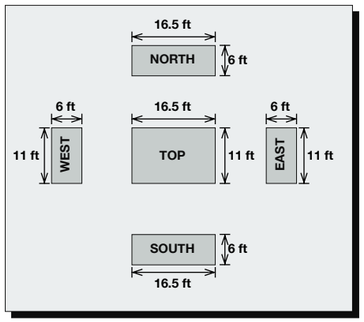
- L — Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Steel Floor Plate (Diamond Plate)
- Floor Opening (Uncovered)
- ×(xxx xx) — Elevation



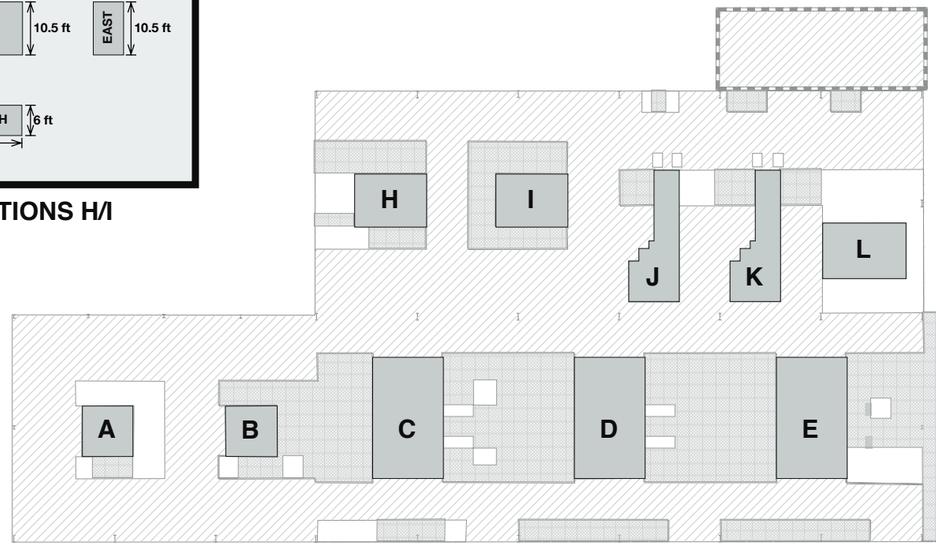
FOUNDATIONS J/K

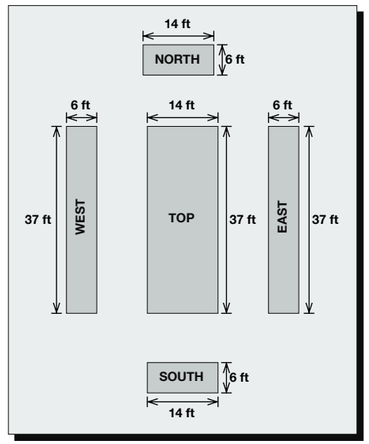


FOUNDATIONS H/I

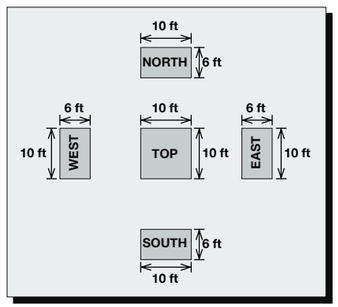


FOUNDATION L

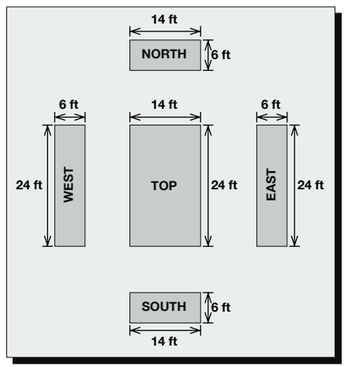




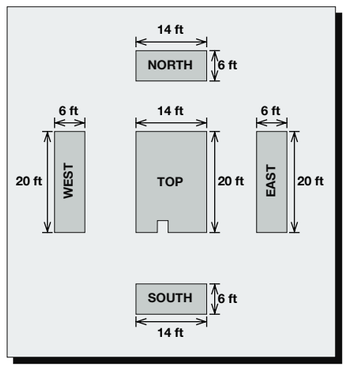
FOUNDATION G



FOUNDATIONS A/B



FOUNDATIONS C/D/E



FOUNDATION F

NORTH
CCS 83

0 15 30 Feet

Scale: 1 inch = 30 feet

Vertical Datum: Ventura Co. NAVD88

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building
Concrete Foundation Dimensions

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	0	04/12/16	6

Table 2: Concrete Equipment Foundation Sample Schedule

Sample ID	Paired Coordinates (X-Y)	Duplicate (Sample ID)
FNDA-T	98, *48*	
FNDA-N	37, 29	
FNDA-S	36, 43	FNDA-D
FNDA-E	29, 17	
FNDA-W	54, 51	
FNDB-T	27, 69	
FNDB-N	88, 45	
FNDB-S	71, 23	
FNDB-E	11, 20	
FNDB-W	35, 10	
FNDC-T	*86, 144*	FNDC-D
FNDC-N	*80*, 30	
FNDC-S	152, 21	
FNDC-E	222, 20	
FNDC-W	248, *50*	
FNDD-T	*86, 144*	
FNDD-N	47, *45*	
FNDD-S	145, 18	
FNDD-E	244, *50*	
FNDD-W	187, *54*	
FNDE-T	72, 151	
FNDE-N	48, 22	
FNDE-S	*77*, 18	FNDE-D
FNDE-E	238, 35	
FNDE-W	25, 47	
FNDF-T	*86, 120*	
FNDF-N	111, 54	
FNDF-S	10, 8	
FNDF-E	202, 16	
FNDF-W	95, 14	
~~FNDG-T~~	~~78, 141~~	No Sample
~~FNDG-N~~	~~88, 7~~	No Sample
FNDG-S	126, 25	
FNDG-E	86, 24	
FNDG-W	173, 52	

Sample ID	Paired Coordinates (X-Y)	Duplicate (Sample ID)
FNDH-T	21, 99	
FNDH-N	160, 35	FNDH-D
FNDH-S	148, 29	
FNDH-E	34, 10	
FNDH-W	109, *45*	
FNDI-T	42, 43	
FNDI-N	50, 10	
FNDI-S	89, 52	
FNDI-E	60, 20	
FNDI-W	112, *40*	
FNDJ-N	8, *43*	FNDJ-D
FNDJ-S	109, *55*	
FNDJ-E	*201, 39*	
FNDJ-W	*235*, 44	
FNDK-N	32, *37*	FNDK-D
FNDK-S	17, 54	
FNDK-E	140, 41	
FNDK-W	*232, 16*	
FNDL-T	*99, 66*	
FNDL-N	100, 25	
FNDL-S	122, 23	
FNDL-E	*40*, 26	
FNDL-W	23, 30	
DUPLICATE SAMPLES		
FNDA-D	36, 43	FNDA-S
FNDC-D	*86, 144*	FNDC-T
FNDE-D	*77*, 18	FNDE-S
FNDH-D	160, 35	FNDH-N
FNDJ-D	8, *43*	FNDJ-N
FNDK-D	32, *37*	FNDK-N

Grid Origin = SW Corner (Horizontal) or Lower Left Corner (Vertical)
X = North-South or Horizontal; Y= East-West or Vertical
Dimensions in inches
Revised coordinates shown in ***italics***.

Alternate sampling locations were selected in the field if physical obstructions prevented sampling the originally scheduled paired coordinate locations. The alternate locations were moved as close to the original locations as possible while avoiding the obstruction and providing a safe working area for sampling personnel.

Two concrete foundation locations could not be safely accessed: The top of foundation "G" could not be accessed safely due to fall protection constraints. The north face of foundation "G" could also not be accessed safely due to the presence of physical obstructions in the vicinity.

Concrete samples were collected from a total of fifty-six discrete foundation locations (five sides per each foundation except for the two foundation tops covered by remaining compressors and the two inaccessible areas described above). Duplicate samples were collected at a 10% frequency (6 duplicate samples). Samples were labeled using the prefix "FND" followed by the foundation name (A-L) and side (T/N/S/E/W) (e.g., sample "FNDL-T" will designate the sample collected from the top surface of Foundation "L"). Duplicate samples used the surrogate designation "D" in the sample numbering system described above.

Concrete Foundation Sampling
(Top Surface)

2.2.4 Concrete Crawl Space and Perimeter Sampling

The concrete-paved crawl space under the building was sampled on a 6 m square-based grid system overlain over the former footprint of the Compressor Building based on a modified procedure for characterizing a PCB Remediation Waste site described in Subpart N (this concrete is schedule for offsite disposal during demolition).[20] In addition, large ground level concrete slabs outside of the footprint of the building (in the perimeter area) were included in this grid sampling. Note that some of these slabs extend under the adjacent Urea (Ammonia) Plant north of the Compressor Building. The sampling grid locations for the concrete-paved crawl space and perimeter areas are illustrated on Figure 7.

[20] §761.61(a)(2) and §761.280-761.298

LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- x(xxx xx) Elevation
- Grid Stake Set
- Concrete Sample Location

COMPRESSOR BUILDING GROUND LEVEL

NORTH CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet

Vertical Datum: Ventura Co. NAVD88

Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Concrete Crawl Space and Perimeter Sample Locations

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	06/25/16	**7**

Concrete samples were collected from a total of fifty-three discrete crawl space and perimeter locations. Duplicate samples were collected at a 10% frequency (6 duplicate samples). Samples were labeled using the prefix "CS" followed by the grid location (e.g., sample "CS-T23" will designate the sample collected from grid location T23). Duplicate samples used the surrogate row designation "Z" followed by column designations beginning with "1" in the sample numbering system described above.

Table 3 includes a summary of the crawl space and perimeter concrete samples and randomly selected duplicates.

Concrete Foundation Sampling
(Vertical Face)

2.2.5 Concrete Floor Deck Sampling

The elevated concrete floor deck was also sampled on an approximate 6 m square-based grid. Sampling locations for this area were based on the existing grid formed by the primary building column bays that are approximately 20' x 22' (6.1 m x 6.7 m). Figure 8 illustrates the building column grid and sampling locations for the concrete floor deck.

Concrete samples were collected from a total of twenty-eight discrete floor deck locations. Duplicate samples were collected at a 10% frequency (3 duplicate samples). Samples were labeled using the prefix "FD" followed by the grid location (e.g., "FD-DE15.5" indicating a sample collected at the midpoint between grid locations D and E, and 15 and 16). Duplicate samples used the surrogate column designations "EF" followed by grid numbers beginning with "16.5" in the sample numbering system described above.

Table 4 includes a summary of the floor deck concrete samples and randomly selected duplicates.

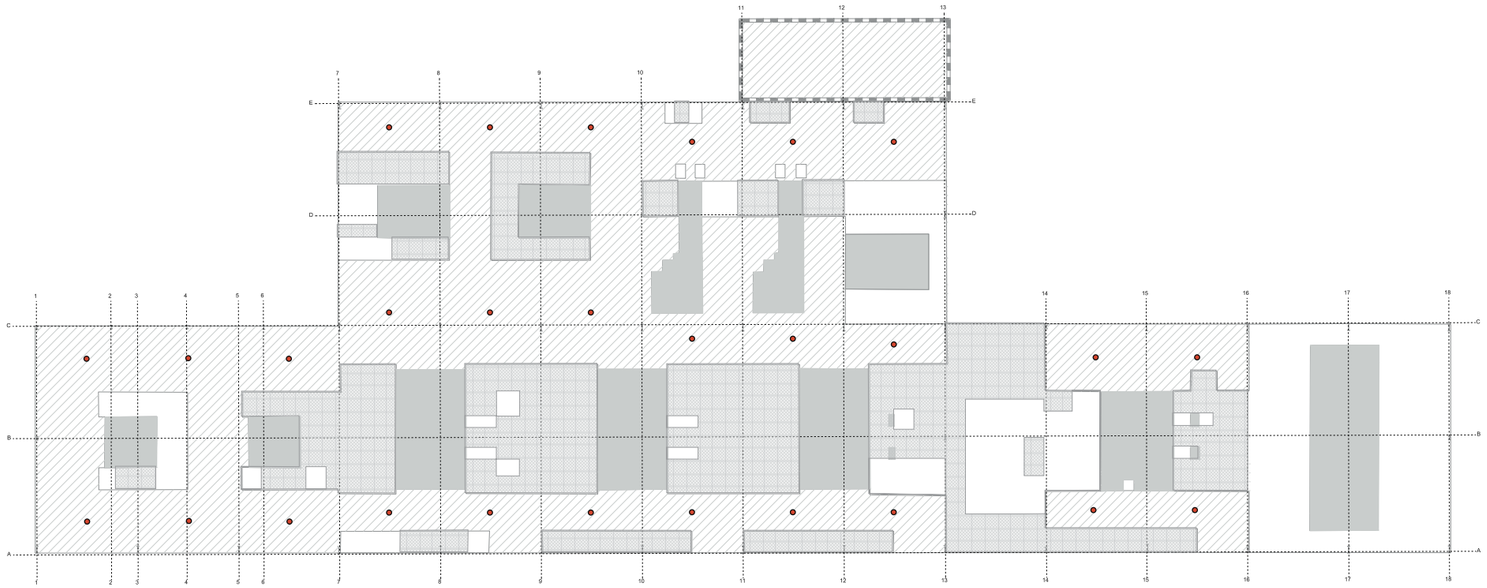
Table 3: Concrete Crawl Space and Perimeter Sample Schedule

Sample ID	Duplicate (Sample ID)
CS-F5	
CS-F7	
CS-F9	
CS-F11	
CS-F13	
CS-F15	
CS-F17	
CS-F19	
CS-F21	
CS-F23	
CS-F25	
CS-F27	
CS-F29	
CS-F31	
CS-F35	
CS-H5	
CS-H7	
CS-H9	
CS-H11	
CS-H13	CS-Z1
CS-H17	CS-Z2
CS-H21	
CS-H25	
CS-H27	CS-Z3
CS-H31	
CS-H35	CS-Z4
CS-J13	
CS-J15	CS-Z5
CS-J17	
CS-J19	

Sample ID	Duplicate (Sample ID)
CS-J21	
CS-J23	
CS-J25	
CS-J28	
CS-J30	
CS-L13	
CS-L19	
CS-L21	
CS-L23	
CS-L25	
CS-N13	CS-Z6
CS-N15	
CS-N17	
CS-N19	
CS-N21	
CS-N23	
CS-N25	
CS-R19	
CS-R21	
CS-R23	
CS-T19	
CS-T21	
CS-T23	
DUPLICATE SAMPLES	
CS-Z1	CS-H13
CS-Z2	CS-H17
CS-Z3	CS-H27
CS-Z4	CS-H35
CS-Z5	CS-J15
CS-Z6	CS-N13

LEGEND

- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Steel Floor Plate (Diamond Plate)
- Floor Opening (Uncovered)
- ×(xxx xx) Elevation
- Concrete Sample Location



COMPRESSOR BUILDING FLOOR DECK

NORTH
CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet

Vertical Datum: Ventura Co. NAVD88

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building
Floor Deck Concrete Sample Locations

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	06/25/16	**8**

Table 4: Concrete Floor Deck Sample Schedule

Sample ID	Duplicate (Sample ID)
FD-AB1.5	
FD-AB3.5	
FD-AB5.5	
FD-AB7.5	
FD-AB8.5	
FD-AB9.5	
FD-AB10.5	
FD-AB11.5	
FD-AB12.5	
FD-AB14.5	
FD-AB15.5	FD-EF16.5
FD-BC1.5	
FD-BC3.5	
FD-BC5.5	FD-EF17.5
FD-BC10.5	
FD-BC11.5	

Sample ID	Duplicate (Sample ID)
FD-BC12.5	
FD-BC14.5	
FD-BC15.5	
FD-CD7.5	
FD-CD8.5	
FD-CD9.5	
FD-DE7.5	
FD-DE8.5	FD-EF18.5
FD-DE9.5	
FD-DE10.5	
FD-DE11.5	
FD-DE12.5	
DUPLICATE SAMPLES	
FD-EF16.5	FD-AB15.5
FD-EF17.5	FD-BC5.5
FD-EF18.5	FD-DE8.5

3.0 Waste Profile Characterization

3.1 Wastes Generated During Interim Cleanup

PCB concentrations of Bulk PCB Remediation Waste and gross residues removed during the interim cleanup operation were based on sample results obtained by Dudek during site characterization events in 2014. During this characterization, the Bulk PCB Remediation Waste was found to exceed 50 mg/kg PCBs in one limited area in the crawl space of the Compressor Building (see the Cleanup Plan for further details). This area was cleaned separately and the waste from this area was segregated and disposed as PCB waste (≥ 50 mg/kg). The remainder of the Bulk PCB Remediation Waste in the crawl space was found to be less than 50 mg/kg and was designated for disposal as < 50 mg/kg PCBs. The gross residues (oily residues) found in the Compressor Building underwent limited sampling during the Dudek characterization efforts. These samples were less than 50 mg/kg but based on the limited number of samples, these wastes were also disposed as PCB waste (presumed ≥ 50 mg/kg).[21]

Typical Crawlspace Concrete Sampling Location
(foreground)

In addition to the PCB analysis performed during the 2014 Dudek sampling events, the Bulk PCB Remediation Waste and gross residues found in the Compressor Building underwent additional sampling and analysis by Destrier in 2015 prior to the interim cleanup operation to further evaluate waste profile characteristics of the waste materials that would be generated and disposed offsite during the cleanup.

These samples were analyzed for PCBs, Total Petroleum Hydrocarbons (TPH), Volatile Organic Compounds (VOCs), and CAM17 metals[22]. Additional extraction and analysis of PCBs and

[21] §761.61(a)(5)(i)(B)(2)(i)

[22] California Assessment Method, a suite of 17 specific metals constituents matching California-based hazardous waste disposal criteria (TTLC and STLC), 22CCR §66261.24. CAM17 Metals includes Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mo, Ni, Se, Ag, Th, V, Z, and Hg.

certain metals constituents were also performed to determine if federal Toxicity Characteristic Leaching Procedure (TCLP) or California Soluble Threshold Limit Concentration (STLC) criteria may have been exceeded for these constituents.[23]

The results of these analyses demonstrated that the Bulk PCB Remediation Waste and gross residues contained concentrations of Cd and Pb in excess of California hazardous waste criteria (TTLC and/or STLC). These metals constituents were ascertained to be the result of peeling and disturbed paint present in the Compressor Building structure. No other constituents were found to exceed California or federal hazardous waste criteria.

Based on these waste profiling results, two waste streams were identified for the wastes generated during the interim cleanup. The first waste stream was Bulk PCB Remediation Waste < 50 mg/kg PCBs removed from the crawl space during the interim cleanup. This waste stream also was found to exceed California hazardous waste criteria for Cd and Pb and was therefore characterized as "*Non-RCRA Hazardous Waste Solid (Cd, Pb)*" under California rules.

The second waste stream consisted of materials known *or presumed* to exceed 50 mg/kg PCBs. Bulk PCB Remediation Waste found by Dudek to exceed 50 mg/kg PCBs and gross residues decontaminated during the interim cleanup were disposed under this waste stream. This waste stream also exceeded California hazardous waste criteria for Cd and Pb.

These wastes were transported for offsite (California) hazardous waste disposal at the Waste Management Kettleman Hills Landfill under profile numbers CA608682 and CA608683, respectively.

3.2 Additional Waste Profiling (Cd and Pb Analyses)

The primary focus of the work described in this addendum was to characterize the PCB concentrations of the soil, asphalt and concrete surfaces that underlaid the Bulk PCB Remediation Wastes and gross residues removed during the interim cleanup operations. However, the presence of elevated Cd and Pb concentrations in these wastes warranted additional sampling for these constituents to both characterize, and establish waste profile characteristics for the soil, asphalt and concrete that are the subject of this addendum.

3.2.1 Soil and Asphalt Profiling and Characterization

Soil and asphalt samples described in Section 2.0 underwent additional laboratory analyses for total Cd and total Pb. Ten percent of the samples were randomly selected for Cd and Pb analysis by EPA Method 6010. These additional analyses were intended to characterize these contaminants (in materials that may remain on site) as well as to establish waste profile characteristics for any soil or asphalt that may be subsequently excavated and disposed.[24] Previously selected random duplicates coincidently selected for these Cd and Pb analyses were also analyzed as Cd and Pb duplicates. A total of nineteen soil and asphalt samples and two duplicates were analyzed for Cd and Pb (five soil and sixteen asphalt). Table 5 includes a summary of the randomly selected soil and asphalt samples for Cd and Pb analysis.

[23] Total metals constituents with concentrations ten times (10X) greater than their corresponding STLC criteria are generally analyzed for extractable (soluble) metals using the California Waste Extraction Test (WET) and evaluated against their STLC criteria for waste characterization purposes.

[24] Site closure for non-PCB contaminants may be sought from State agencies.

Table 5: Soil and Asphalt Cd and Pb Sample Schedule

Sample ID	Media	Duplicate (Sample ID)
CD17.5	Asphalt	
DE11.5	Soil	
DE25.5	Asphalt	
EF35.5	Asphalt	
FG4.5	Soil	
FG35.5	Asphalt	
FG36.5	Asphalt	
JK8.5	Soil	
JK12.5	Asphalt	
KL25.5	Asphalt	
MN9.5	Soil	YZ47.5

Sample ID	Media	Duplicate (Sample ID)
MN10.5	Asphalt	
MN25.5	Asphalt	
NO11.5	Asphalt	
NO26.5	Asphalt	
PQ11.5	Asphalt	
PQ21.5	Asphalt	YZ52.5
PQ25.5	Asphalt	
QR7.5	Asphalt	
DUPLICATE SAMPLES		
YZ47.5	Soil	MN9.5
YZ52.5	Asphalt	PQ21.5

3.2.2 Concrete Profile Sampling

Concrete samples also underwent additional Cd and Pb analysis for purposes of waste profile classification. Ten percent of the concrete samples were randomly selected for Cd and Pb analysis by EPA Method 6010 (fifteen samples and two duplicates). Table 6 includes a summary of the randomly selected concrete samples for Cd and Pb analysis.

Table 6: Concrete Cd and Pb Sample Schedule

Sample ID	Duplicate (Sample ID)
FOUNDATION SAMPLES	
FNDA-N	
FNDB-W	
FNDD-T	
FNDH-T	
FNDL-T	
FNDL-N	
FLOOR DECK SAMPLES	
FD-BC1.5	
FD-BC5.5	FD-EF17.5
FD-CD9.5	

Sample ID	Duplicate (Sample ID)
CRAWLSPACE SAMPLES	
CS-H7	
CS-H13	CS-Z1
CS-J23	
CS-J25	
CS-J28	
CS-T23	
DUPLICATE SAMPLES	
FD-EF17.5	FD-BC5.5
CS-Z1	CS-H13

4.0 Perimeter Soil and Porous Surfaces Characterization Results

4.1 Soil and Asphalt PCB Characterization Results

One hundred eighty-five discrete surface soil and asphalt samples were collected from the perimeter of the Compressor Building (97 soil samples and 88 asphalt samples). Additionally, nineteen randomly selected duplicate samples were collected (9 soil and 10 asphalt). These sample locations and duplicates are summarized on Figure 5 and Table 1, above.

Perimeter Soil Sampling

Eighty-three of the 185 sample locations exceeded the project action level for PCBs (45%). Thirty-nine of the 185 locations exceeded the TSCA High-Occupancy criteria of 1.0 mg/kg (21%). PCB concentrations ranged from 0.00604 mg/kg to 43.7 mg/kg. No samples contained ≥ 50 mg/kg PCBs. All samples with detectable concentrations of PCBs contained PCB 1260. Two samples also contained PCB 1242 and five samples also contained PCB 1248.

Table 7 and Figure 9 present the PCB results for the perimeter soil and asphalt samples.

Table 7: Perimeter Soil and Asphalt PCB Sample Results (mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
CD17.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0214**	Asphalt
CD18.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0781**	Asphalt
CD19.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**3.81**	Asphalt
CD20.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.401**	Soil
YZ37.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.405**	Dup of CD20.5
CD21.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.2**	Soil
CD22.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.233**	Asphalt
CD23.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**1.89**	Soil
YZ38.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**2.35**	Dup of CD23.5
CD24.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.0477**	Soil
CD26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0078**	Asphalt
CD27.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.0135**	Soil
DE5.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.247**	Asphalt
DE7.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.0199**	Soil
DE8.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	Soil
DE9.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.0488**	Soil
DE10.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.0234**	Soil
YZ39.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.0891**	Dup of DE10.5
DE11.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.328**	Soil
DE12.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	Soil
DE13.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.0365**	Soil
DE14.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.193**	Asphalt
YZ40.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.226**	Dup of DE14.5
DE15.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	Soil
DE16.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.239**	Soil
DE17.5	ND <0.173	ND <0.173	ND <0.173	ND <0.173	ND <0.173	ND <0.173	**0.0516**	Soil
DE18.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.561**	Asphalt
DE19.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.337**	Soil
DE21.5	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	**0.0339**	Soil

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).

Table 7: Perimeter Soil and Asphalt PCB Sample Results
(Continued)
(mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
DE22.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.148**	Asphalt
DE23.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.498**	Soil
YZ41.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.761**	Dup of DE23.5
DE24.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.894**	Soil
YZ42.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**2.08**	Dup of DE24.5
DE25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**2.46**	Asphalt
DE26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.859**	Asphalt
DE27.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.205**	Soil
YZ43.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.402**	Dup of DE27.5
DE28.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.212**	Soil
DE29.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.218**	Asphalt
DE30.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0654**	Asphalt
DE31.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.193**	Asphalt
DE32.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0769**	Asphalt
YZ44.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.203**	Dup of DE32.5
DE33.5	ND <0.017	ND <0.017	ND <0.017	**0.112**	ND <0.017	ND <0.017	**0.173**	Asphalt
DE34.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.119**	Asphalt
DE35.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.314**	Asphalt
DE36.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	Asphalt
EF3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.0133**	Soil
EF35.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.69**	Asphalt
EF36.5	ND <0.017	ND <0.017	ND <0.017	**0.0404**	ND <0.017	ND <0.017	**0.0317**	Asphalt
FG3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.0574**	Soil
FG4.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.012**	Soil
FG35.5	ND <0.17	ND <0.17	ND <0.17	ND <0.17	ND <0.17	ND <0.17	**0.269**	Asphalt
FG36.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0349**	Asphalt
GH3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.00869**	Soil
GH4.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.485**	Soil
GH35.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.966**	Asphalt

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).

Table 7: Perimeter Soil and Asphalt PCB Sample Results
(Continued)
(mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
GH36.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0457**	Asphalt
HI3.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.0175**	Soil
HI4.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.2**	Soil
HI35.5	ND <0.17	ND <0.17	ND <0.17	ND <0.17	ND <0.17	ND <0.17	**0.453**	Asphalt
HI36.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.2**	Asphalt
IJ3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	Soil
IJ4.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.0602**	Soil
IJ5.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.451**	Soil
IJ6.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.672**	Soil
IJ35.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.123**	Soil
IJ36.5	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	**0.114**	Soil
JK3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.0356**	Soil
JK4.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.18**	Soil
JK5.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	Soil
JK6.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	Soil
JK7.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.492**	Soil
JK8.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.519**	Soil
JK9.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.561**	Soil
JK10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.242**	Asphalt
JK11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**3.2**	Asphalt
JK12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.99**	Asphalt
JK25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**21.6**	Asphalt
YZ45.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**14.7**	Dup of JK25.5
JK26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**9.29**	Asphalt
JK35.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.177**	Soil
JK36.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.116**	Soil
KL3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	Soil
KL4.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	Soil
KL5.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	Soil

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).

Table 7: Perimeter Soil and Asphalt PCB Sample Results
(Continued)
(mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
KL6.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.0788**	Soil
KL7.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**1**	Soil
YZ46.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**2.85**	Dup of KL7.5
KL8.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.121**	Soil
KL9.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**2.46**	Soil
KL10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.419**	Asphalt
KL11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.116**	Asphalt
KL12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**3.06**	Asphalt
KL25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**15.8**	Asphalt
KL26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.46**	Asphalt
LM3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	Soil
LM4.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	Soil
LM5.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.011**	Soil
LM6.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.105**	Soil
LM7.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**1.15**	Soil
LM8.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**2.31**	Soil
LM9.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**3.47**	Soil
LM10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.093**	Asphalt
LM11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.231**	Asphalt
LM12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**12.7**	Asphalt
LM25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.35**	Asphalt
LM26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.386**	Asphalt
MN3.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.00604**	Soil
MN4.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	Soil
MN5.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.153**	Soil
MN6.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.0315**	Soil
MN7.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**2.56**	Soil
MN8.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**1.46**	Soil
MN9.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.489**	Soil

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).

Table 7: Perimeter Soil and Asphalt PCB Sample Results
(Continued)
(mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
YZ47.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**1.46**	Dup of MN9.5
MN10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0418**	Asphalt
MN11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.195**	Asphalt
MN12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0889**	Asphalt
MN25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**3.94**	Asphalt
MN26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.497**	Asphalt
NO5.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.368**	Soil
NO6.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.00813**	Soil
NO7.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.113**	Soil
NO8.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.115**	Soil
NO9.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.0359**	Soil
NO10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.31**	Asphalt
NO11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.235**	Asphalt
NO12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.101**	Asphalt
NO13.5	ND <0.0179	ND <0.0179	ND <0.0179	ND <0.0179	ND <0.0179	ND <0.0179	**0.218**	Soil
NO14.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.066**	Soil
NO15.5	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	**0.039**	Soil
NO16.5	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	**0.168**	Soil
NO17.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**1.45**	Soil
NO18.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.922**	Soil
NO19.5	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	ND <0.0178	**0.974**	Soil
NO20.5	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	**3.93**	Soil
NO21.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.293**	Soil
NO22.5	ND <0.0179	ND <0.0179	ND <0.0179	ND <0.0179	ND <0.0179	ND <0.0179	**43.7**	Soil
NO23.5	ND <0.0177	ND <0.0177	ND <0.0177	ND <0.0177	ND <0.0177	ND <0.0177	**11.6**	Soil
NO24.5	ND <0.0175	ND <0.0175	ND <0.0175	ND <0.0175	ND <0.0175	ND <0.0175	**3.33**	Soil
NO25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**2.13**	Asphalt
YZ48.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**7.37**	Dup of NO25.5
NO26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.439**	Asphalt

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).

Table 7: Perimeter Soil and Asphalt PCB Sample Results
(Continued)
(mg/kg)

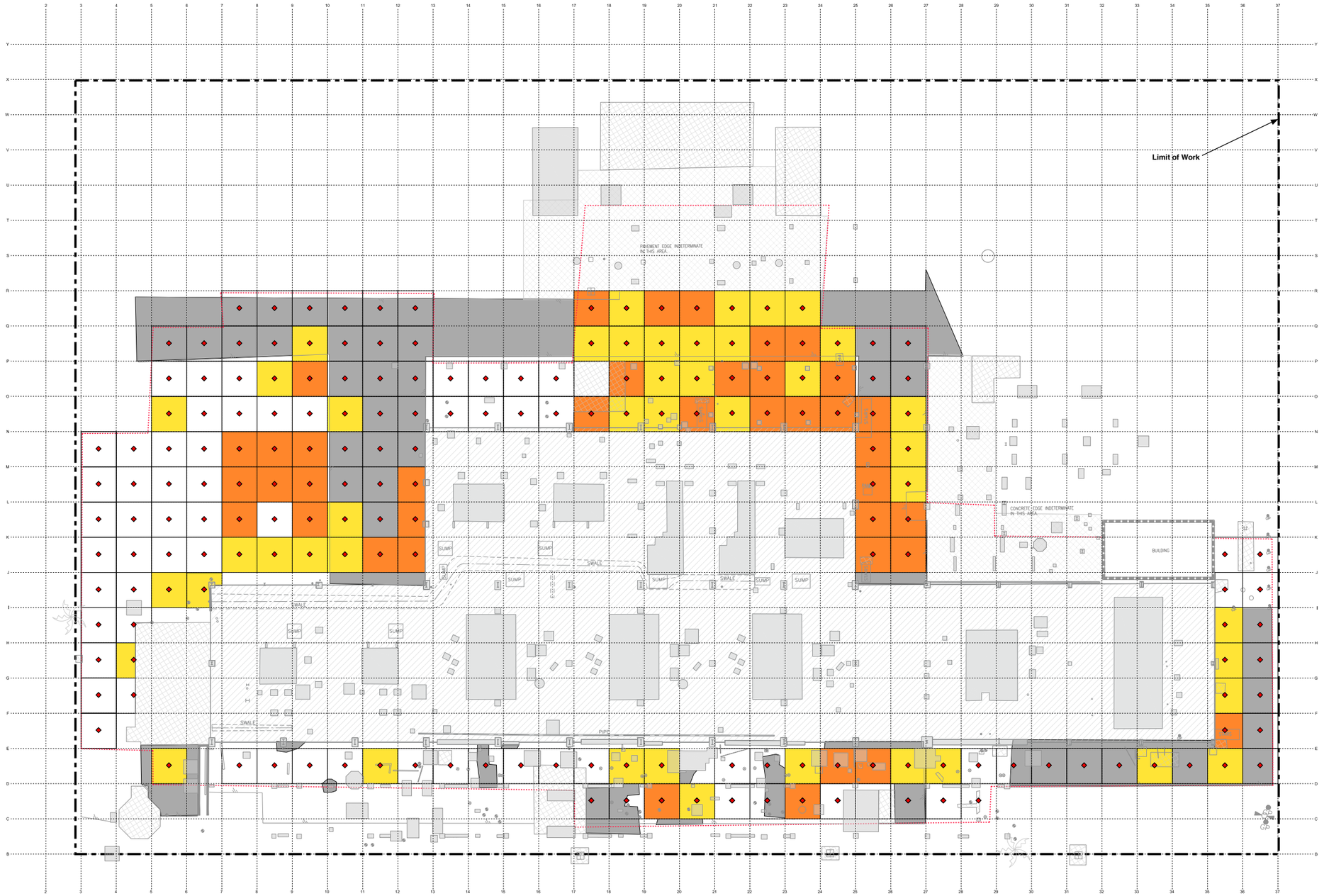
Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
OP5.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.0846**	Soil
OP6.5	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	**0.0108**	Soil
OP7.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.0229**	Soil
OP8.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.317**	Soil
OP9.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**1.57**	Soil
OP10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0486**	Asphalt
OP11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0305**	Asphalt
OP12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0238**	Asphalt
OP13.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.0486**	Soil
OP14.5	ND <0.0177	ND <0.0177	ND <0.0177	ND <0.0177	ND <0.0177	ND <0.0177	**0.0501**	Soil
OP15.5	ND <0.0175	ND <0.0175	ND <0.0175	ND <0.0175	ND <0.0175	ND <0.0175	**0.0321**	Soil
OP16.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.0853**	Soil
OP18.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**1.24**	Soil
OP19.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.789**	Soil
OP20.5	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	ND <0.0176	**0.372**	Soil
OP21.5	ND <0.0874	ND <0.0874	ND <0.0874	ND <0.0874	ND <0.0874	ND <0.0874	**2.34**	Soil
YZ49.5	ND <0.0878	ND <0.0878	ND <0.0878	ND <0.0878	ND <0.0878	ND <0.0878	**2.55**	Dup of OP21.5
OP22.5	ND <0.0883	ND <0.0883	ND <0.0883	ND <0.0883	ND <0.0883	ND <0.0883	**1.06**	Soil
OP23.5	ND <0.0194	ND <0.0194	ND <0.0194	ND <0.0194	ND <0.0194	ND <0.0194	**0.489**	Soil
OP24.5	ND <0.0184	ND <0.0184	ND <0.0184	ND <0.0184	ND <0.0184	ND <0.0184	**1.78**	Soil
OP25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.153**	Asphalt
OP26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.136**	Asphalt
PQ5.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0503**	Asphalt
PQ6.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0733**	Asphalt
YZ50.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.077**	Dup of PQ6.5
PQ7.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.109**	Asphalt
PQ8.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.111**	Asphalt
YZ51.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.123**	Dup of PQ8.5
PQ9.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.625**	Asphalt

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).

Table 7: Perimeter Soil and Asphalt PCB Sample Results
(Continued)
(mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
PQ10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.144**	Asphalt
PQ11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0643**	Asphalt
PQ12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.134**	Asphalt
PQ17.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.756**	Asphalt
PQ18.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.928**	Asphalt
PQ19.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.773**	Asphalt
PQ20.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.373**	Asphalt
PQ21.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.149**	Asphalt
YZ52.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.632**	Dup of PQ21.5
PQ22.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.51**	Asphalt
PQ23.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.761**	Asphalt
YZ53.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.23**	Dup of PQ23.5
PQ24.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.326**	Asphalt
PQ25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.111**	Asphalt
PQ26.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0936**	Asphalt
QR7.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0696**	Asphalt
QR8.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0552**	ND <0.017	**0.0724**	Asphalt
QR9.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0435**	ND <0.017	**0.0593**	Asphalt
QR10.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.058**	ND <0.017	**0.0716**	Asphalt
QR11.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0714**	ND <0.017	**0.129**	Asphalt
QR12.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.115**	ND <0.017	**0.113**	Asphalt
QR17.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.18**	Asphalt
YZ54.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.72**	Dup of QR17.5
QR18.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.563**	Asphalt
YZ55.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.912**	Dup of QR18.5
QR19.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.12**	Asphalt
QR20.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.02**	Asphalt
QR21.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.623**	Asphalt
QR22.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.395**	Asphalt
QR23.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.401**	Asphalt

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).



LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- x(xxx xx) Elevation
- Grid Stake Set
- Soil/Asphalt Sample Location
- Sample Result ≥ 0.24 mg/kg PCBs
- Sample Result ≥ 1.0 mg/kg PCBs

COMPRESSOR BUILDING GROUND LEVEL

NORTH
CCS 83

0 15 30 Feet

Scale: 1 inch = 30 feet

Vertical Datum: Ventura Co. NAVD88

Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Perimeter Soil and Asphalt PCB Results

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	2	08/01/16	**9**

4.2 Concrete PCB Characterization Results

4.2.1 Concrete Equipment Foundations

Fifty-six discrete concrete samples and six random duplicates were collected from the twelve existing concrete equipment foundations located in the Compressor Building. Twelve of the 56 sample locations contained PCB 1260 in excess of the project action level (21%). Seven of the 56 locations exceeded the TSCA High-Occupancy criteria of 1.0 mg/kg (12.5%). One of the sample locations, FNDL-N, exceeded 50 mg/kg. Concentrations ranged from ND > 0.017 mg/kg to 291 mg/kg. Of the twelve individual foundations sampled, five foundations contained one or more samples that exceeded project action levels.

Table 8 lists the concrete equipment foundation PCB sample results. Figure 10 illustrates the locations of the concrete equipment foundations that exceeded project action levels (note that this figure shows the entire foundation color coded according to the highest PCB concentration found in any of the corresponding samples).

Concrete Hammer Drill Sampling

4.2.2 Crawlspace and Perimeter Concrete Slabs

Concrete samples were collected from a total of fifty-three discrete crawl space and perimeter concrete locations. Six random duplicates were also collected.

Thirty-two of the 53 locations sampled (60%) exceeded the project action level of 0.24 mg/kg for PCB 1260. Seventeen locations exceeded the TSCA High-Occupancy criteria of 1.0 mg/kg (32%). Additionally, three of these samples exceeded 50 mg/kg. PCB concentrations ranged from < 0.17 mg/kg to 672 mg/kg.

Table 9 summarizes the crawlspace and perimeter concrete PCB data. Figure 10 shows the locations of the areas where crawlspace and perimeter concrete samples exceeded action levels.

Table 8: Concrete Equipment Foundations PCB Sample Results (mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
FNDA-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	
FNDA-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0356**	
FNDA-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0151**	
FNDA-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0109**	Dup of FNDA-S
FNDA-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0225**	
FNDA-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0971**	
FNDB-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0798**	
FNDB-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0356**	
FNDB-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	
FNDB-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.134**	
FNDB-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0295**	
FNDC-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.051**	
FNDC-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0107**	Dup of FNDC-T
FNDC-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.062**	
FNDC-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.00895**	
FNDC-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0633**	
FNDC-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0379**	
FNDD-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0111**	
FNDD-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.276**	
FNDD-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0368**	
FNDD-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0928**	
FNDD-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0585**	
FNDE-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0295**	
FNDE-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.59**	
FNDE-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.289**	
FNDE-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.357**	Dup of FNDE-S
FNDE-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.232**	
FNDE-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.297**	
FNDF-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0272**	
FNDF-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.443**	
FNDF-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.00698**	

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).
Red highlight indicates concentration exceeds 50 mg/kg.

Table 8: Concrete Equipment Foundations PCB Sample Results
(Continued)
(mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
FNDF-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0344**	
FNDF-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0652**	
FNDG-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	
FNDG-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0211**	
FNDG-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0716**	
FNDH-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0381**	
FNDH-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.053**	
FNDH-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0623**	Dup of FNDH-N
FNDH-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0504**	
FNDH-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.157**	
FNDH-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0243**	
FNDI-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	
FNDI-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.123**	
FNDI-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.189**	
FNDI-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.112**	
FNDI-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0419**	
FNDJ-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.044**	
FNDJ-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0263**	Dup of FNDJ-N
FNDJ-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0899**	
FNDJ-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.204**	
FNDJ-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0307**	
FNDK-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.116**	
FNDK-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.234**	Dup of FNDK-N
FNDK-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**4.51**	
FNDK-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.092**	
FNDK-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**4.75**	
FNDL-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**14.9**	
FNDL-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**291**	
FNDL-S	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**5.68**	
FNDL-E	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**30.9**	
FNDL-W	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**39.8**	

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).
Red highlight indicates concentration exceeds 50 mg/kg.

LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- ×(xxx xx) Elevation
- Grid Stake Set
- Concrete Sample Location
- **G** Concrete Equipment Foundation ID
- Sample Result ≥ 0.24 mg/kg PCBs
- Sample Result ≥ 1.0 mg/kg PCBs
- Sample Result ≥ 50 mg/kg PCBs

COMPRESSOR BUILDING GROUND LEVEL

NORTH CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet

Vertical Datum: Ventura Co. NAVD88

Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Crawl Space and Perimeter Concrete PCB Results

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	07/20/16	**10**

Table 9: Crawlspace and Perimeter Concrete PCB Sample Results (mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
CS-F5	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	
CS-F7	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.0815**	
CS-F9	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.0737**	
CS-F11	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	
CS-F13	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.166**	
CS-F15	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.0806**	
CS-F17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.0527**	
CS-F19	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.432**	
CS-F21	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.314**	
CS-F23	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.213**	
CS-F25	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**1.09**	
CS-F27	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.354**	
CS-F29	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	
CS-F31	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	
CS-F35	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	
CS-H5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0352**	
CS-H7	<0.0262	<0.0262	<0.0262	<0.0262	<0.0262	<0.0262	**0.299**	
CS-H9	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0371**	
CS-H11	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	**0.108**	
CS-H13	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.482**	
CS-Z1	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.421**	Dup of CS-H13
CS-H17	<0.0235	<0.0235	<0.0235	<0.0235	<0.0235	<0.0235	**0.231**	
CS-Z2	<0.0415	<0.0415	<0.0415	<0.0415	<0.0415	<0.0415	**0.393**	Dup of CS-H17
CS-H21	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**4.92**	
CS-H25	<0.0189	<0.0189	<0.0189	<0.0189	<0.0189	<0.0189	**9.13**	
CS-H27	<0.0247	<0.0247	<0.0247	<0.0247	<0.0247	<0.0247	**0.945**	
CS-Z3	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.572**	Dup of CS-H27
CS-H31	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.296**	
CS-H35	<0.0202	<0.0202	<0.0202	<0.0202	<0.0202	<0.0202	**0.159**	
CS-Z4	<0.0241	<0.0241	<0.0241	<0.0241	<0.0241	<0.0241	**0.141**	Dup of CS-H35

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).
Red highlight indicates concentration exceeds 50 mg/kg.

Table 9: Crawlspace and Perimeter Concrete PCB Sample Results (Continued) (mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
CS-J13	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**2**	
CS-J15	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	**11.2**	
CS-Z5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**17**	Dup of CS-J15
CS-J17	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**10.5**	
CS-J19	<0.164	<0.164	<0.164	<0.164	<0.164	<0.164	**272**	
CS-J21	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**8.61**	
CS-J23	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**672**	
CS-J25	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**36.8**	
CS-J28	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**2.93**	
CS-J30	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.756**	
CS-L13	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.392**	
CS-L19	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.623**	
CS-L21	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.18**	
CS-L23	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**48**	
CS-L25	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**14.4**	
CS-N13	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0798**	
CS-Z6	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.109**	Dup of CS-N13
CS-N15	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.555**	
CS-N17	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.238**	
CS-N19	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**1.85**	
CS-N21	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**119**	
CS-N23	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**43.8**	
CS-N25	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**1.91**	
CS-R19	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.282**	
CS-R21	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.135**	
CS-R23	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.132**	
CS-T19	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.248**	
CS-T21	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.262**	
CS-T23	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0311**	

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).
Red highlight indicates concentration exceeds 50 mg/kg.

4.2.3 Concrete Floor Deck

Twenty-eight discrete concrete samples and three duplicates were collected from Compressor Building floor deck locations.

Eleven of the 28 locations (39%) were found to exceed project action levels for PCB 1260 (eleven samples and one duplicate). One sample exceeded the TSCA High-Occupancy criteria of 1.0 mg/kg. PCB concentrations ranged from 0.00558 mg/kg to 1.27 mg/kg. Table 10 lists the PCB sample data for the concrete floor deck locations. The sampling results for the concrete floor deck are illustrated on Figure 11.

Perimeter Soil and Asphalt
South Side of Building

4.3 Cd and Pb Results

4.3.1 Interpretation of Cd and Pb Results

Ten percent of the samples scheduled for PCB analysis during this characterization program were randomly selected for Cd and Pb analysis to characterize these contaminants (in materials that may remain on site) as well as to establish waste profile characteristics for any materials that may be subsequently excavated and disposed offsite (see Section 3.0).

For materials that may remain on site such as soil and asphalt that meet the project cleanup standard for PCBs, the Cd and Pb analytical results are compared to the corresponding project cleanup standards for these constituents (see Section 1.5). Materials that will be disposed offsite during demolition are evaluated for Cd and Pb concentrations in relation to California and federal hazardous waste classification criteria (TTLC, STLC and TCLP).

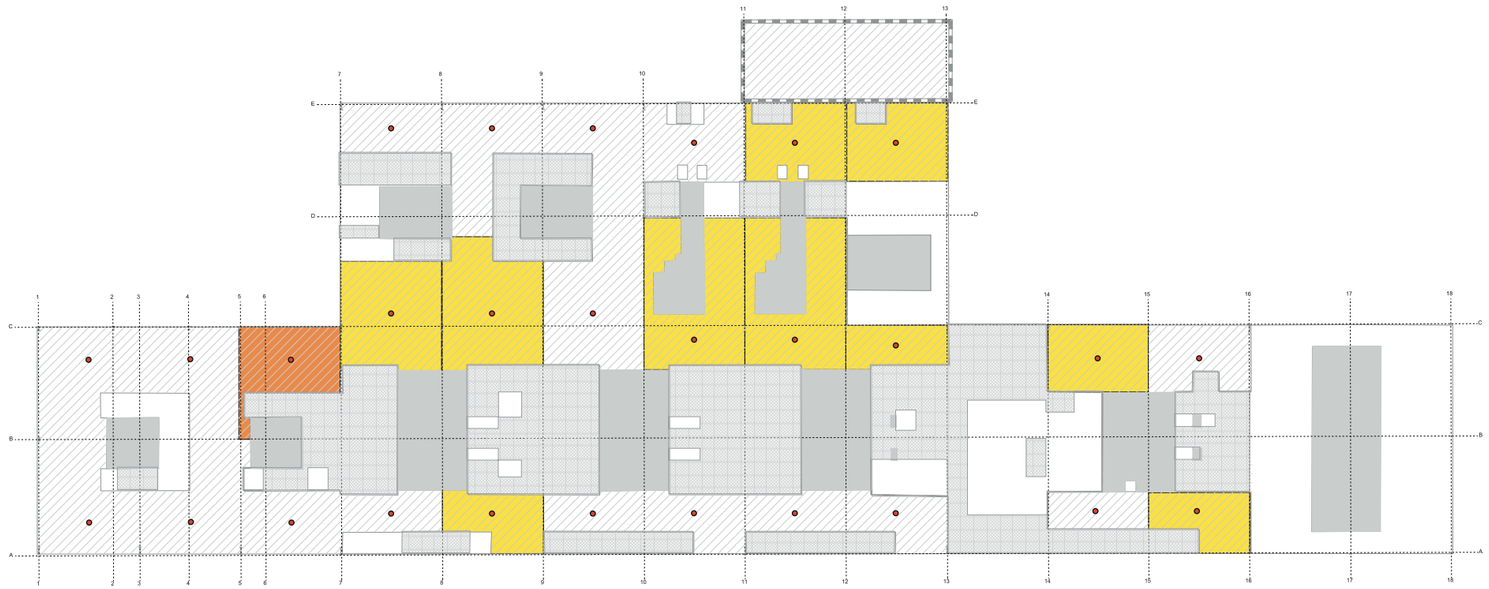
Table 10: Concrete Floor Deck PCB Sample Results (mg/kg)

Sample	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Remarks
FD-AB1.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.00558**	
FD-AB3.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.031**	
FD-AB5.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.184**	
FD-AB7.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0354**	
FD-AB8.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.343**	
FD-AB9.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0537**	
FD-AB10.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.128**	
FD-AB11.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.175**	
FD-AB12.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0498**	
FD-AB14.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.106**	
FD-AB15.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.223**	
FD-EF16.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.272**	Dup of FD-AB15.5
FD-BC1.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0528**	
FD-BC3.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0995**	
FD-BC5.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.669**	
FD-EF17.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**1.27**	Dup of FD-BC5.5
FD-BC10.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.357**	
FD-BC11.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.555**	
FD-BC12.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.581**	
FD-BC14.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.266**	
FD-BC15.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.217**	
FD-CD7.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.295**	
FD-CD8.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.308**	
FD-CD9.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.107**	
FD-DE7.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0162**	
FD-DE8.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.141**	
FD-EF18.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.193**	Dup of FD-DE8.5
FD-DE9.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0649**	
FD-DE10.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.112**	
FD-DE11.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.283**	
FD-DE12.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.315**	

Yellow highlight indicates concentration exceeds project action level (≥0.24 mg/kg).
Orange highlight indicates concentration exceeds TSCA high-occupancy action level (≥1.0 mg/kg).

LEGEND

- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Steel Floor Plate (Diamond Plate)
- Floor Opening (Uncovered)
- ×(xxx xx) Elevation
- Concrete Sample Location
- Sample Result ≥ 0.24 mg/kg PCBs
- Sample Result ≥ 1.0 mg/kg PCBs



COMPRESSOR BUILDING FLOOR DECK

NORTH
CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet

Vertical Datum: Ventura Co. NAVD88

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building
Floor Deck Concrete PCB Results

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	07/25/16	**11**

4.3.2 Soil and Asphalt Cd and Pb Results

Nineteen soil and asphalt samples plus two duplicates described in Section 2.0 underwent additional laboratory analyses for Cd and Pb (five soil and sixteen asphalt). Table 5, above, tabulates the perimeter soil and asphalt samples that were randomly scheduled for Cd and Pb analyses.

Cd results obtained from these samples ranged from 0.5 mg/kg to 7.34 mg/kg. One of these results exceeds the project cleanup criteria for Cd (sample "MN25.5"). All of the Cd results are below state and federal waste classification criteria for Cd. No additional analyses or extractions for Cd were performed since none of the results exceeded 10X STLC for Cd.

Seventeen of the nineteen soil and asphalt sample locations (plus two duplicate samples) originally selected for Pb analysis exceeded 10X STLC criteria and the project cleanup standards. Four of these samples also exceeded the TTLC. Based on these initial results, the laboratory was requested to perform STLC and TCLP extraction and analysis of some of these samples (see below). Additionally, further Pb analysis of additional samples was also requested from the laboratory as described below.

Perimeter Soil and Asphalt Sample Locations
(Northwest Portion of Project Area)

The laboratory was instructed to perform TCLP Pb analysis on the four original samples where total Pb exceeded TTLC (California) hazardous waste criteria[25] to further characterize if federal hazardous waste criteria may also be exceeded (all four of these samples were asphalt). One of these samples, "DE25.5", was not analyzed for TCLP due to an inadvertent omission by the laboratory. Analysis of the other three samples revealed that TCLP Pb criteria were not exceeded.[26] TCLP Pb results for these samples ranged from < 0.45 mg/l to 0.796 mg/l.

[25] TTLC = 1,000 mg/kg Pb

[26] TCLP = 5.0 mg/l Pb.

The remaining original samples that exceeded 10X STLC (five soil and ten asphalt samples) were scheduled for STLC extraction and Pb analysis to determine if STLC (California) hazardous waste criteria was exceeded for Pb.[27] Thirteen of the fifteen samples exceeded the STLC Pb criteria of 5 mg/l (three soil and ten asphalt) indicating that these materials would be classified as California hazardous waste upon disposal. The STLC Pb results obtained from these fifteen samples ranged from 2.46 mg/l to 35.3 mg/l.

Based on these initial results from the nineteen locations originally selected for Cd and Pb analysis, the laboratory was requested to perform total Pb analysis for all remaining samples (except for asphalt samples with PCB results greater than the project action level) to determine if additional characterization or remediation may be necessary for these areas based on Pb concentrations and to establish waste profiling characteristics for materials destined for offsite disposal. Of the total 204 samples collected from the perimeter soil and asphalt (185 locations plus 19 duplicates), 164 were ultimately selected for total Pb analysis (106 soil and 58 asphalt).

Total Pb analyses for ***asphalt*** samples resulted in concentrations ranging from 21.3 mg/kg to 9,860 mg/kg. Forty-four of the 58 samples (76%) exceeded the project action level and seven (12%) exceeded the TTLC. The majority of the asphalt samples analyzed for total Pb exceeded 10X STLC (50 of 58; 86%). STLC Pb analysis performed on ten of the original fifteen asphalt samples randomly selected for Cd and Pb analysis all were in excess of the STLC Pb criterion.

In summary, 76% of the asphalt samples analyzed for total Pb exceeded the project action level. These analyses were primarily performed on samples that were below the project action level for PCBs. STLC Pb analyses performed on asphalt samples all exceeded the STLC Pb California hazardous waste criterion. Federal TCLP Pb hazardous waste criteria were not exceeded for any of the limited number of asphalt samples analyzed.

Total Pb analysis performed on ***soil*** samples showed concentrations ranging from 9.2 mg/kg to 6,400 mg/kg. Twenty-one samples (20%) exceeded TTLC Pb criteria, seventy-two samples (68%) exceeded the project action level, and seventy-eight samples (76%) exceeded 10X STLC.

Upon receipt of initial total Pb data from the additional soil samples analyzed, TCLP Pb extraction and analysis was scheduled for twelve of the samples with total Pb concentrations in excess of the project action level (including three samples that exceeded TTLC and three samples that exceeded STLC). These samples had total Pb concentrations ranging from 122 mg/kg to 2,330 mg/kg. TCLP Pb results ranged from <0.45 mg/l to 1.57 mg/l and were all less than the TCLP Pb hazardous waste criterion.

Soil Pb sample results are summarized as follows: 68% of the soil samples analyzed for total Pb exceeded the project action level and 20% exceeded TTLC. STLC Pb analyses were performed on five soil samples (four samples and one duplicate). Two of the four sample locations (plus one duplicate) exceeded the STLC Pb California hazardous waste criterion. Federal TCLP Pb hazardous waste criteria were not exceeded for any of the twelve samples analyzed.

Table 11 summarizes the Cd and Pb data collected for the perimeter soil and asphalt samples. Figure 12 shows the Pb results for the perimeter soil and asphalt samples in graphical format.

[27] STLC = 5.0 mg/l Pb.

Table 11: Perimeter Soil and Asphalt Cd and Pb Sample Results

Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
CD17.5	1.09	665	21.1	
CD18.5		1460		
CD19.5				
CD20.5		1500		
YZ37.5		1940		
CD21.5		109		
CD22.5		354		
CD23.5		2020		
YZ38.5		620		
CD24.5		193		
CD26.5		436		
CD27.5		58.6		
DE5.5				
DE7.5		593		<0.45
DE8.5		59.5		
DE9.5		270		
DE10.5		176		
YZ39.5		72.9		
DE11.5	1.26	123	35.3	<0.45
DE12.5		79.3		
DE13.5		762		<0.45
DE14.5		1460		
YZ40.5		983		
DE15.5		27.6		
DE16.5		1530		
DE17.5		545		<0.45
DE18.5				
DE19.5		1600		
DE21.5		144		
DE22.5		824		
DE23.5		1340		
YZ41.5		2460		
DE24.5		1090		
YZ42.5		2370		
DE25.5	3.96	1730		

Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
DE26.5				
DE27.5		2330		<0.45
YZ43.5		1870		
DE28.5		1340		<0.45
DE29.5		234		
DE30.5		448		
DE31.5		146		
DE32.5		37.9		
YZ44.5		322		
DE33.5				
DE34.5		25.6		
DE35.5				
DE36.5		21.3		
EF3.5		16.7		
EF35.5	2.92	295	21.8	
EF36.5		55.4		
FG3.5		84.3		
FG4.5	1.63	223	2.61	
FG35.5	2.15	165	20.3	
FG36.5	0.5	39.6		
GH3.5		12.4		
GH4.5		473		
GH35.5				
GH36.5		44.1		
HI3.5		14.7		
HI4.5		120		
HI35.5				
HI36.5		58.7		
IJ3.5		9.22		
IJ4.5		50		
IJ5.5		126		
IJ6.5		148		
IJ35.5		177		
IJ36.5		104		
JK3.5		38.6		

Blank indicates not analyzed

Yellow highlight indicates concentration exceeds project action level (5.2 mg/kg Cd, 80 mg/kg Pb)

Orange highlight indicates concentration exceeds hazardous waste criteria (TTLC, STLC, and/or TCLP)

Table 11: Perimeter Soil and Asphalt Cd and Pb Sample Results (Continued)

Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
JK4.5		48		
JK5.5		10.9		
JK6.5		212		
JK7.5		709		
JK8.5	1.35	124	2.46	
JK9.5		139		
JK10.5				
JK11.5				
JK12.5	3.78	9860		<0.45
JK25.5				
YZ45.5				
JK26.5				
JK35.5		92.7		
JK36.5		109		
KL3.5		13.6		
KL4.5		11.6		
KL5.5		15.9		
KL6.5		68.1		
KL7.5		245		
YZ46.5		446		
KL8.5		165		
KL9.5		1560		
KL10.5				
KL11.5		145		
KL12.5				
KL25.5	3.56	437	12.6	
KL26.5				
LM3.5		11.2		
LM4.5		11		
LM5.5		14.4		
LM6.5		40.2		
LM7.5		115		
LM8.5		371		
LM9.5		613		
LM10.5		474		

Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
LM11.5		115		
LM12.5				
LM25.5				
LM26.5				
MN3.5		11.9		
MN4.5		9.21		
MN5.5		22.8		
MN6.5		13.8		
MN7.5		123		
MN8.5		109		
MN9.5	1.43	279	5.47	<0.45
YZ47.5	1.7	219	6.07	<0.45
MN10.5	1.59	115	5.27	
MN11.5		290		
MN12.5		229		
MN25.5	7.34	3170		0.772
MN26.5				
NO5.5		28.7		
NO6.5		11.7		
NO7.5		35.9		
NO8.5		27.6		
NO9.5		23.5		
NO10.5				
NO11.5	1.42	163	5.22	
NO12.5		96		
NO13.5		889		<0.45
NO14.5		634		1.57
NO15.5		129		
NO16.5		683		<0.45
NO17.5		1370		1.17
NO18.5		657		
NO19.5		1160		
NO20.5		813		
NO21.5		41.7		
NO22.5		2260		

Blank indicates not analyzed

Yellow highlight indicates concentration exceeds project action level (5.2 mg/kg Cd, 80 mg/kg Pb)

Orange highlight indicates concentration exceeds hazardous waste criteria (TTLC, STLC, and/or TCLP)

Table 11: Perimeter Soil and Asphalt Cd and Pb Sample Results (Continued)

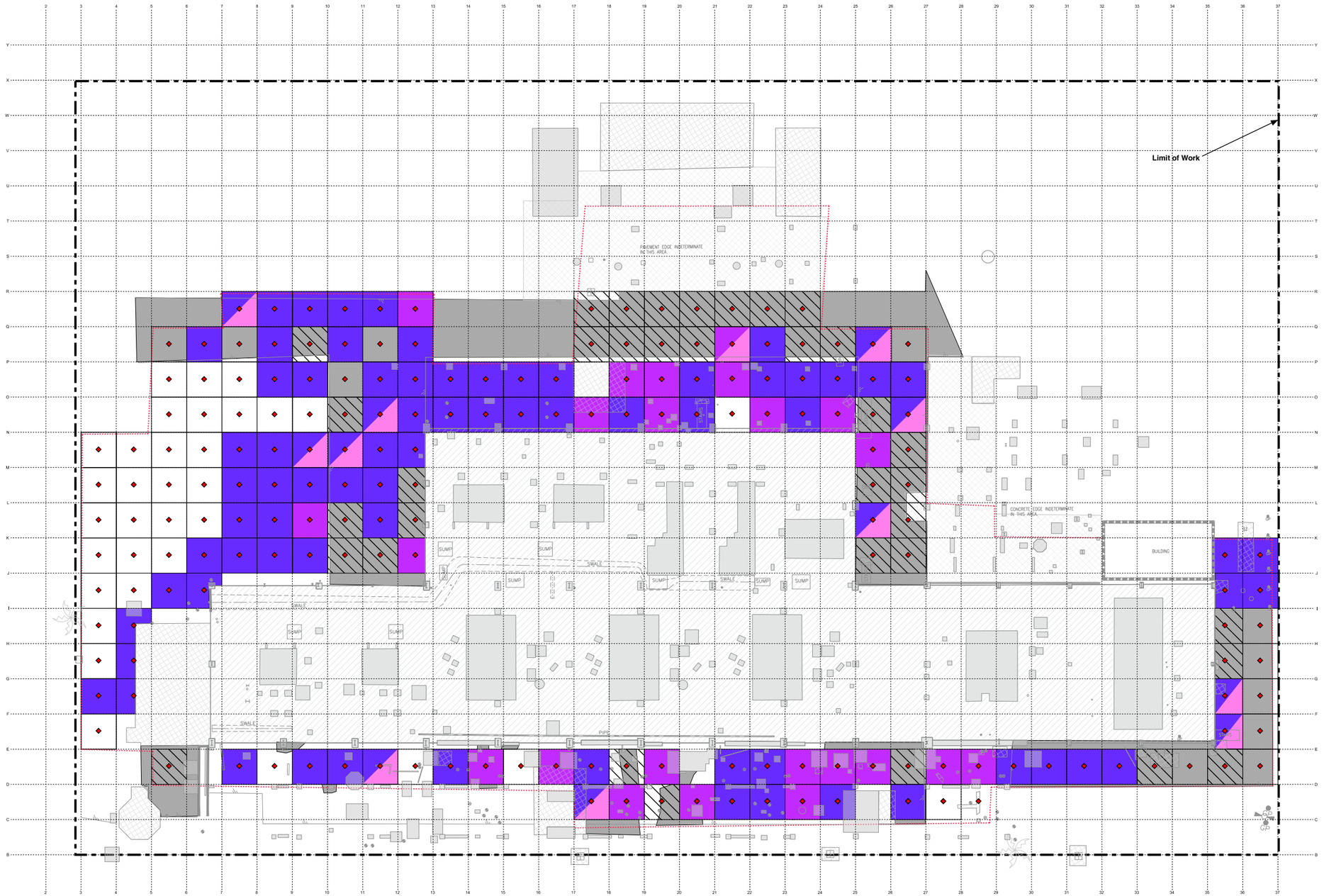
Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
NO23.5		166		
NO24.5		1030		
NO25.5				
YZ48.5				
NO26.5	1.4	248	8.31	
OP5.5		25.4		
OP6.5		16.3		
OP7.5		24.9		
OP8.5		118		
OP9.5		220		
OP10.5		22.5		
OP11.5		376		
OP12.5		108		
OP13.5		251		
OP14.5		300		
OP15.5		146		
OP16.5		342		
OP18.5		6400		
OP19.5		1700		
OP20.5		508		
OP21.5		1810		
YZ49.5		1100		
OP22.5		609		
OP23.5		257		
OP24.5		365		
OP25.5		176		
OP26.5		143		
PQ5.5		70.6		
PQ6.5		112		
YZ50.5		60.8		
PQ7.5		47.6		
PQ8.5		52.8		
YZ51.5		81.3		
PQ9.5				
PQ10.5		128		

Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
PQ11.5	0.521	43.1		
PQ12.5		728		
PQ17.5				
PQ18.5				
PQ19.5				
PQ20.5				
PQ21.5	2.74	857	29.3	
YZ52.5	2.97	1250		0.796
PQ22.5		607		
PQ23.5				
YZ53.5				
PQ24.5				
PQ25.5	1.51	180	17	
PQ26.5		58.6		
QR7.5	1	268	8.08	
QR8.5		187		
QR9.5		267		
QR10.5		204		
QR11.5		692		
QR12.5		1310		
QR17.5				
YZ54.5				
QR18.5				
YZ55.5				
QR19.5				
QR20.5				
QR21.5				
QR22.5				
QR23.5				

Blank indicates not analyzed

Yellow highlight indicates concentration exceeds project action level (5.2 mg/kg Cd, 80 mg/kg Pb)

Orange highlight indicates concentration exceeds hazardous waste criteria (TTLC, STLC, and/or TCLP)



LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- x(xxx xx) Elevation
- Grid Stake Set
- Soil/Asphalt Sample Location
- Sample Result ≥ 1,000 Pb (TTLC)
- Sample Result ≥ 80 mg/kg Pb
- Sample Result Exceeds Pb STLC
- No Pb Analysis Performed

COMPRESSOR BUILDING GROUND LEVEL

NORTH CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet
Vertical Datum: Ventura Co. NAVD88
Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Perimeter Soil and Asphalt Pb Results

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	07/20/16	**12**

4.3.3 Concrete Cd and Pb Results

Ten percent of the concrete samples were randomly selected for Cd and Pb analysis for purposes of waste profile classification (fifteen samples and two duplicates).

Concrete Cd concentrations ranged from 0.472 mg/kg to 3.12 mg/kg. None of the concrete samples exceeded project cleanup criteria or hazardous waste classification criteria for Cd. Additionally, no concrete samples exceeded 10X STLC for Cd.

Concrete Pb concentrations ranged from 4.67 mg/kg to 286 mg/kg. Five of the fifteen samples tested for Pb exceeded 10X STLC criteria and were scheduled for subsequent STLC extraction and Pb analysis. Three of these samples also exceeded project action levels and two exceeded 20X TCLP criteria. The four highest concentration crawlspace concrete samples were scheduled for TCLP extraction and Pb analysis if adequate sample volume remained.

STLC Pb concentrations ranged from < 0.045 mg/l to 3.16 mg/l. TCLP Pb concentrations were all < 0.45 mg/l. Based on these data, none of the concrete samples exceed hazardous waste classification criteria for Pb.

Table 12: Concrete Cd and Pb Sample Results

Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
FOUNDATION SAMPLES				
FNDA-N	0.565	8.32	NA	NA
FNDB-W	1.93	6.73	NA	NA
FNDD-T	0.546	49.4	NA	NA
FNDH-T	0.472	38	NA	NA
FNDL-T	0.674	71.1	<0.045	NA
FNDL-N	0.526	4.67	NA	NA
FLOOR DECK SAMPLES				
FD-BC1.5	1.85	29.9	NA	NA
FD-BC5.5	0.772	30.4	NA	NA
FD-CD9.5	0.932	30.3	NA	NA

Sample ID	Total Cd (mg/kg)	Total Pb (mg/kg)	STLC Pb (mg/l)	TCLP Pb (mg/l)
CRAWLSPACE SAMPLES				
CS-H7	0.663	11.3	NA	NA
CS-H13	0.581	30.3	NA	NA
CS-J23	1.56	101	0.114	NA*
CS-J25	3.12	286	2.02	<0.45
CS-J28	1.45	51	3.16	<0.45
CS-T23	2.52	87.6	0.411	<0.45
DUPLICATE SAMPLES				
FD-EF17.5	0.548	24.3	NA	NA
CS-Z1	0.605	31.7	NA	NA

Yellow highlight indicates concentration ≥10X STLC

* Not analyzed due to insufficient sample volume.

5.0 Proposed Further Actions

5.1 Perimeter Soil and Asphalt

5.1.1 Perimeter Soil and Asphalt Excavation Plan

Characterization sampling results for soil and asphalt revealed eighty-three grid locations that exceeded the 0.24 mg/kg PCB project action level. Additionally, 106 grid locations overall exceeded the 80 mg/kg Pb project action level. Of these 106 locations, forty-six also exceed the PCB action level. Sixty of the 106 Pb locations are below the PCB action level and only require further action based on their lead content. Additionally, one Cd sample location exceeded project action levels but this location also exceeded the PCB and Pb criteria.

Therefore, 143 discrete grid locations combined exceeded project action levels for PCBs and/or Pb (37 PCB only, 60 Pb only, and 46 PCB and Pb). These 143 cells will undergo additional excavation and re-sampling until the project action levels are met.

Perimeter Soil and Asphalt
(Urea Plant Corridor North of Building)

Perimeter soil and asphalt grid locations that exceeded project action levels will be excavated to approximately one-foot (0.3 m) below surrounding grade. Concrete pedestals, pipes, guard posts and other physical obstructions will be removed as necessary to complete the excavation work. These items will be disposed offsite along with other concrete as described in Section 5.2 below.

Pb analysis of the perimeter soil and asphalt resulted in a significant number of samples that exceeded California TTLC and STLC. Federal TCLP criteria were not exceeded. Based on these data, soil and asphalt excavated during this remediation will be classified as non-RCRA hazardous waste solids (lead). Excavated material will be transported and disposed offsite at the Waste Management Kettleman Hills Landfill under existing waste profile CA608682 (see Section 3.0, above).

Movable equipment, tools and sampling equipment will be decontaminated by swabbing with a solvent (PODF) or cleaned using the "double wash/rinse" method defined in Subpart S.[28] Appropriate measures will be taken to prevent release of PCBs to the environment and protective clothing will be worn by decontamination workers during equipment decontamination. Confirmatory sampling or inspection of equipment and tools is not specifically required following the implementation of these self-implementing decontamination procedures.[29] However, prior to demobilizing large movable equipment, tools and sampling equipment from the site, one or more wipe samples may be collected as a quality assurance measure to determine decontamination efficacy. Alternatively, movable equipment, tools and sampling equipment may be directly disposed rather than decontaminated.[30]

Other cleanup wastes such as non-liquid cleaning materials, disposable sampling equipment and used personal protective equipment will not be sampled prior to disposal. These materials will be collected in a plastic trash bag and subsequently disposed as municipal solid waste.[31]

Figure 13 shows the layout of the perimeter soil and asphalt remediation plan.

5.1.2 Perimeter Soil and Asphalt PCB Confirmation Sampling

Post excavation sampling and analysis will be performed within each 3 meter perimeter soil and asphalt excavation area in accordance with §761.283(b). Surface soil samples will be collected in a square, 1.5 meter grid pattern.

Samples will be composited according to the procedures described in §761.289(b)(1)(i). A maximum of four individual sub-samples will be included in each composite sample set for each 3 meter excavation area. If concrete pedestals, pipes, guard posts or other physical obstructions are present within an excavation grid, fewer sub-samples may be collected within that grid.

An estimated 319 individual sub-samples will be collected at 1.5 meter centers from the 84 grid-based excavations where PCB concentrations were greater than project action levels. Eighty-three composite samples will be derived from these sub-samples as shown on Figure 13.

Individual sub-samples will be collected by gloved hand using disposable plastic spoons and placed in a disposable resealable plastic bag. Individual sub-sample locations will be marked in the field using surveyor whiskers or flagging at each sampling location. Composite samples will be collected by mixing the sub-samples throughly in the plastic bag then dispensing the resultant composite sample into a 2 oz glass jar.

Duplicate composite samples will be collected at a frequency of 10% (nine duplicate composite samples). The duplicate sample locations have been selected using a random number generator (random.org). The duplicate sample will be collected by dispensing two aliquots of the mixed composite sample into separate glass sample jars. Composite samples will labeled with the prefix "COMP" followed by the grid location designation described in Section 2.1.1, above (e.g., "COMP-EF36.5" indicating a composited sample set collected at the midpoint between grid locations E and F, and 36 and 37). Duplicate sample numbers will a surrogate grid location "XY" followed by grid numbers beginning with "37.5".

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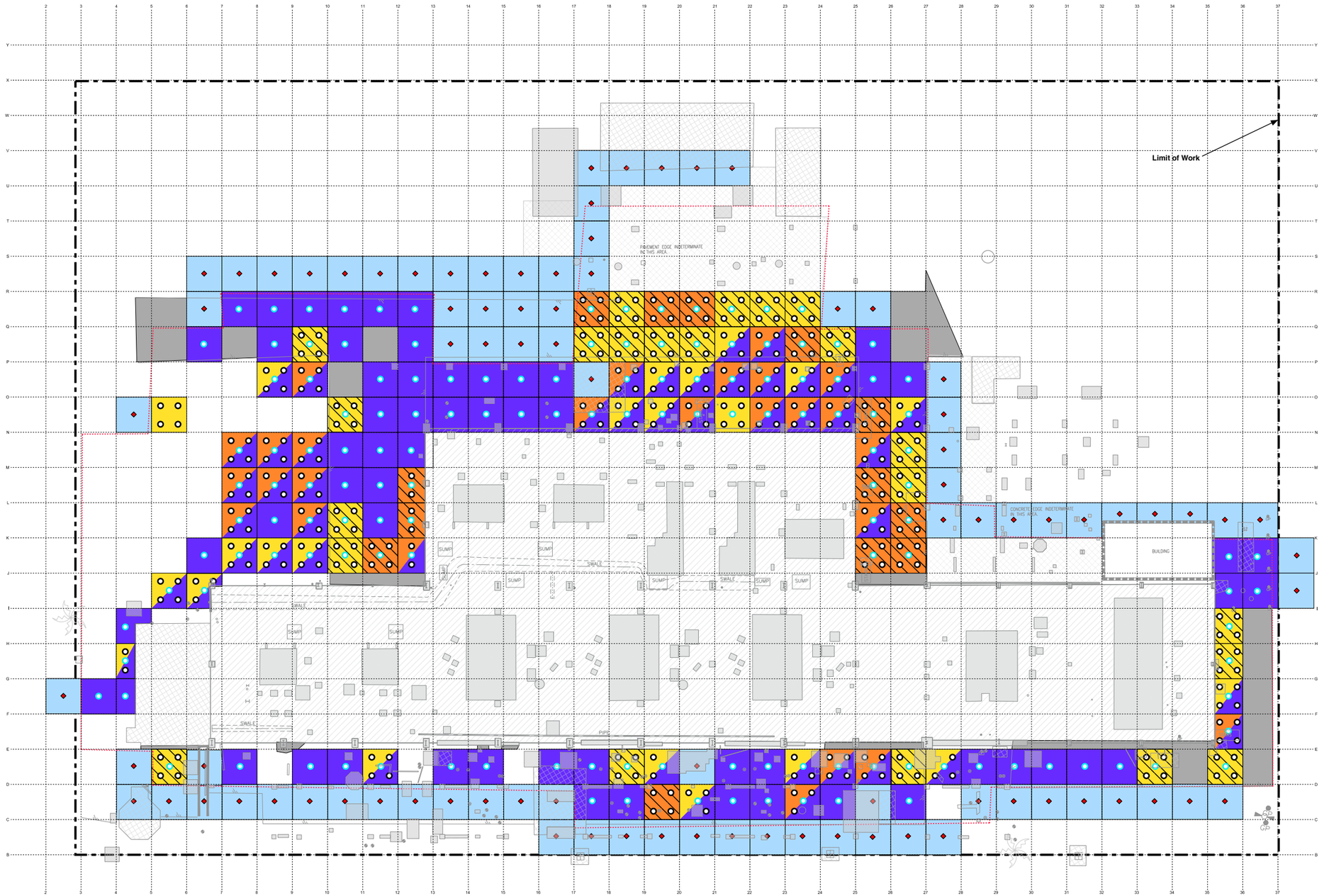
[28] §761.79(c)(2)

[29] §761.79(f)(2)

[30] §761.61(a)(5)(iii), §761.61(a)(5)(i)(B)(2)(i) & §761.61(a)(5)(i)(B)(2)(iii)

[31] §761.79(g)(6) & §761.61(a)(5)(v)



LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- ×(xxx xx) Elevation
- Grid Stake Set
- Surface Sample ≥ 0.24 mg/kg PCBs
- Surface Sample ≥ 1.0 mg/kg PCBs
- Surface Sample ≥ 80 mg/kg Pb
- No Pb Analysis Performed
- Additional (Step Out) Surface Sampling Location
- Proposed Pb Confirmation Sample
- Proposed PCB Confirmation Samples
  1.5m Composite Sample Set
  (One set per original 3m grid cell)

Note: Grids below project action levels are not shaded
See Figure 9 for original sampling results.

COMPRESSOR BUILDING GROUND LEVEL

NORTH
CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet
Vertical Datum: Ventura Co. NAVD88
Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Compressor Building Perimeter Soil and Asphalt Remediation Plan

Source:	Revision:	Date:	Figure:
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Sample jars will be wrapped in bubble wrap sleeves and placed in individual resealable plastic bags. Samples will be immediately chilled to 4°C using water ice and placed in a reusable cooler provided by the laboratory. No other preservatives will be used. Samples will be shipped via Federal Express to ESC Lab Sciences in Mount Juliet, Tennessee. Samples will be submitted for PCB analysis by gas chromatography using EPA Method 8082.

Table 13 includes a summary of the perimeter soil and asphalt PCB confirmation composite samples and the randomly selected duplicates.

5.1.3 Perimeter Soil and Asphalt Cd and Pb Confirmation Sampling

Post excavation Cd and Pb sampling and analysis will be performed within each of the 106 perimeter soil and asphalt excavation areas where Cd or Pb project action levels were exceeded. Single, discrete surface soil samples will be collected from each excavation area as shown on Figure 13.

Individual samples will be collected by gloved hand using disposable plastic spoons and placed in a 2 oz glass jar. Individual sample locations will be marked in the field using surveyor whiskers or flagging at each sampling location.

Duplicate samples will be collected at a frequency of 10% (eleven duplicate composite samples). The duplicate sample locations have been selected using a random number generator (random.org). Duplicate samples will be collected in a disposable resealable plastic bag and dispensing two aliquots of the mixed sample into separate glass sample jars.

Discrete Cd and Pb samples will labeled with the prefix "METL" followed by the grid location designation described in Section 2.1.1, above (e.g., "METL-EF36.5" indicating a sample collected at the midpoint between grid locations E and F, and 36 and 37). Duplicate sample numbers will a surrogate grid location "XY" followed by grid numbers beginning with "47.5".

Samples will be shipped via Federal Express to ESC Lab Sciences in Mount Juliet, Tennessee. Samples will be submitted for Cd and/or Pb analysis by gas chromatography using EPA Method 6010. Including duplicates, 117 discrete samples will receive total Pb analyses and one sample will receive total Cd analysis. Further analysis for STLC or TCLP constituents may be performed for waste characterization purposes upon review of the initial total Cd and Pb analyses.

Table 14 includes a summary of the perimeter soil and asphalt Cd and Pb confirmation samples and the randomly selected duplicates.

5.1.4 Perimeter Soil Step-Out Sampling

Evaluation of the perimeter soil and asphalt PCB and Pb results reveals that eighty-six perimeter sample locations are not adequately bounded by "clean" samples for PCBs and/or Pb at the outer horizontal boundary of the sampling grid (see Figure 13). Based on this evaluation, additional "step-out" surface soil sampling will be performed to identify or confirm the horizontal extent of PCB and Pb concentrations in shallow soil that exceed project action levels.

Figure 13 shows the location of the proposed step-out samples and Table 15 summarizes the sample locations and proposed analyses. Eighty-five Pb and forty-one PCB step-out samples will be collected. Sample collection procedures, including the collection of duplicate samples, will match the discrete sampling procedures described in Section 5.1.3. Step-out samples will be labeled in the same manner as described in Section 2.1.1.

Sample locations found to exceed project action levels will be addressed through further excavation and confirmation sampling as described in this Section 5.1, above.

Table 13: Perimeter Soil PCB Confirmation Sample Schedule

Sample ID "COMP-"	Duplicate Sample
CD19.5	
CD20.5	
CD23.5	
DE5.5	
DE11.5	
DE18.5	
DE19.5	
DE23.5	
DE24.5	
DE25.5	
DE26.5	
DE27.5	XY37.5
DE33.5	
DE35.5	
EF35.5	
FG35.5	
GH4.5	
GH35.5	
HI35.5	
IJ5.5	
IJ6.5	
JK7.5	
JK8.5	
JK9.5	
JK10.5	
JK11.5	
JK12.5	XY38.5
JK25.5	

Sample ID "COMP-"	Duplicate Sample
JK26.5	
KL7.5	
KL9.5	XY39.5
KL10.5	
KL12.5	
KL25.5	
KL26.5	
LM7.5	XY40.5
LM8.5	
LM9.5	
LM12.5	
LM25.5	
LM26.5	
MN7.5	
MN8.5	
MN9.5	
MN25.5	
MN26.5	
NO5.5	
NO10.5	
NO17.5	
NO18.5	
NO19.5	
NO20.5	
NO21.5	
NO22.5	
NO23.5	
NO24.5	

Sample ID "COMP-"	Duplicate Sample
NO25.5	XY42.5
NO26.5	
OP8.5	XY43.5
OP9.5	
OP18.5	
OP19.5	
OP20.5	
OP21.5	XY44.5
OP22.5	XY45.5
OP23.5	
OP24.5	
PQ9.5	
PQ17.5	
PQ18.5	
PQ19.5	
PQ20.5	
PQ21.5	
PQ22.5	
PQ23.5	
PQ24.5	
QR17.5	XY46.5
QR18.5	
QR19.5	
QR20.5	
QR21.5	
QR22.5	
QR23.5	

Table 14: Perimeter Soil Cd and Pb Confirmation Sample Schedule

Sample ID "METL-"	Pb	Cd	Duplicate Sample
CD17.5	✓		
CD18.5	✓		
CD20.5	✓		
CD21.5	✓		
CD22.5	✓		
CD23.5	✓		
CD24.5	✓		
CD26.5	✓		
DE7.5	✓		
DE9.5	✓		
DE10.5	✓		
DE11.5	✓		
DE13.5	✓		XY47.5
DE14.5	✓		
DE16.5	✓		
DE17.5	✓		
DE19.5	✓		
DE21.5	✓		
DE22.5	✓		
DE23.5	✓		
DE24.5	✓		
DE25.5	✓		
DE27.5	✓		
DE28.5	✓		
DE29.5	✓		
DE30.5	✓		
DE31.5	✓		
DE32.5	✓		XY48.5
EF35.5	✓		
FG3.5	✓		
FG4.5	✓		
FG35.5	✓		
GH4.5	✓		
HI4.5	✓		
IJ5.5	✓		
IJ6.5	✓		

Sample ID "METL-"	Pb	Cd	Duplicate Sample
IJ35.5	✓		
IJ36.5	✓		
JK6.5	✓		
JK7.5	✓		XY49.5
JK8.5	✓		
JK9.5	✓		
JK12.5	✓		
JK35.5	✓		
JK36.5	✓		XY50.5
KL7.5	✓		
KL8.5	✓		
KL9.5	✓		
KL11.5	✓		
KL25.5	✓		
LM7.5	✓		
LM8.5	✓		
LM9.5	✓		
LM10.5	✓		
LM11.5	✓		
MN7.5	✓		
MN8.5	✓		
MN9.5	✓		
MN10.5	✓		
MN11.5	✓		
MN12.5	✓		
MN25.5	✓	✓	
NO11.5	✓		
NO12.5	✓		
NO13.5	✓		
NO14.5	✓		XY51.5
NO15.5	✓		
NO16.5	✓		
NO17.5	✓		
NO18.5	✓		
NO19.5	✓		

Sample ID "METL-"	Pb	Cd	Duplicate Sample
NO20.5	✓		
NO22.5	✓		XY52.5
NO23.5	✓		
NO24.5	✓		XY53.5
NO26.5	✓		
OP8.5	✓		
OP9.5	✓		
OP11.5	✓		
OP12.5	✓		XY54.5
OP13.5	✓		XY55.5
OP14.5	✓		
OP15.5	✓		
OP16.5	✓		
OP18.5	✓		
OP19.5	✓		
OP20.5	✓		
OP21.5	✓		
OP22.5	✓		
OP23.5	✓		
OP24.5	✓		
OP25.5	✓		
OP26.5	✓		XY56.5
PQ6.5	✓		
PQ8.5	✓		
PQ10.5	✓		
PQ12.5	✓		
PQ21.5	✓		
PQ22.5	✓		
PQ25.5	✓		
QR7.5	✓		
QR8.5	✓		XY57.5
QR9.5	✓		
QR10.5	✓		
QR11.5	✓		
QR12.5	✓		

Table 15: Perimeter Soil Step-Out Sample Schedule

Sample ID	PCB	Pb	Duplicate Sample
BC16.5		✓	
BC17.5		✓	
BC18.5		✓	
BC19.5	✓	✓	
BC20.5	✓	✓	
BC21.5		✓	
BC22.5		✓	
BC23.5	✓	✓	
BC24.5		✓	
BC25.5		✓	
BC26.5		✓	
BC27.5		✓	
CD4.5	✓	✓	
CD5.5	✓	✓	
CD6.5	✓	✓	
CD7.5		✓	
CD8.5	✓	✓	
CD9.5		✓	
CD10.5		✓	
CD11.5	✓	✓	
CD12.5		✓	
CD13.5		✓	
CD14.5		✓	
CD15.5		✓	
CD16.5		✓	
CD25.5	✓	✓	
CD28.5		✓	
CD29.5		✓	XY58.5
CD30.5		✓	

Sample ID	PCB	Pb	Duplicate Sample
CD31.5		✓	
CD32.5		✓	
CD33.5	✓	✓	XY59.5
CD34.5	✓	✓	
CD35.5	✓	✓	
DE4.5	✓	✓	
DE6.5	✓	✓	
DE20.5	✓	✓	
FG2.5		✓	
IJ37.5		✓	
JK37.5		✓	
KL27.5	✓	✓	
KL28.5	✓	✓	
KL29.5	✓	✓	
KL30.5	✓	✓	
KL31.5	✓	✓	
KL32.5	✓	✓	
KL33.5	✓	✓	XY60.5
KL34.5	✓	✓	
KL35.5	✓	✓	
KL36.5	✓	✓	
LM27.5	✓	✓	
MN27.5	✓	✓	XY61.5
NO4.5	✓		
NO27.5	✓	✓	
OP17.5	✓	✓	
OP27.5		✓	
PQ13.5		✓	XY62.5
PQ14.5		✓	

Sample ID	PCB	Pb	Duplicate Sample
PQ15.5		✓	
PQ16.5	✓	✓	
QR6.5		✓	
QR13.5		✓	
QR14.5		✓	
QR15.5		✓	
QR16.5	✓	✓	
QR24.5	✓	✓	
QR25.5		✓	
RS6.5		✓	
RS7.5		✓	XY63.5
RS8.5		✓	
RS9.5		✓	
RS10.5		✓	
RS11.5		✓	XY64.5
RS12.5		✓	
RS13.5		✓	
RS14.5		✓	
RS15.5		✓	
RS16.5		✓	
RS17.5	✓	✓	
ST17.5	✓	✓	XY65.5
TU17.5	✓	✓	
UV17.5	✓	✓	
UV18.5	✓	✓	
UV19.5	✓	✓	XY66.5
UV20.5	✓	✓	
UV21.5	✓	✓	

5.2 Concrete Removal and Disposal

Characterization sampling of the concrete equipment foundations, concrete crawlspace and perimeter slabs, and concrete floor deck resulted in a significant number of samples in each area that exceeded the 0.24 mg/kg PCB action level. Additionally, one concrete equipment foundation sample (FNDL-N), and three concrete crawlspace samples (CS-J19, CS-J23, and CS-N21) exceeded 50 mg/kg PCBs.

Cd and Pb sampling results showed that the concrete passes California and federal hazardous waste classification criteria for these constituents. Three concrete crawlspace samples exceeded project action levels for Pb.

Areas affected by PCBs ≥ 50 mg/kg have been determined on the basis of the *area of inference* of the samples as described in Subpart O.[32] Furthermore, the crawlspace concrete slab area surrounding concrete equipment foundation "L" has been expanded to include an additional buffer area north and east of sample location "CS-J23" to ensure adequate removal of concrete exceeding 50 mg/kg PCBs.

Figure 14 illustrates the concrete demolition and disposal plan.

Concrete containing ≥ 50 mg/kg PCBs will be removed and transported offsite for disposal at the Waste Management Kettleman Hills Landfill using the existing waste profile CA608683 (see Section 3.0, above).

Remaining concrete (< 50 mg/kg PCBs) within the limits of work shown on Figure 14 will be transported and disposed offsite at the Waste Management Simi Valley Landfill, or another similar facility, as non-hazardous construction and demolition debris. This will include areas where concrete results were ≥ 0.24 mg/kg PCBs and < 50 mg/kg PCBs and areas where concrete results exceeded project action levels for Pb.

5.3 Confirmation Sampling of Soil Under Paved Areas

Soil currently underlying the concrete crawlspace and perimeter slabs will also be sampled upon completion of demolition of the Compressor Building crawlspace and perimeter concrete to confirm no PCBs above project action levels are present below these slabs. Characterization sampling will consist of the collection of discrete characterization samples within a 3 meter grid pattern. Samples will be collected from areas where crawlspace concrete samples exceeded the project action levels. Soil samples will be collected in the same manner as described in Section 2.1, above.

Sampling locations and layouts are shown on Figure 15. Table 16 includes a summary of the soil characterization samples and randomly selected duplicates.

Where soil sample results exceed the 0.24 mg/kg PCB project action level, additional excavation and re-sampling will be performed until this criterion is met.

[32] §761.283(d)

LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- ×(xxx xx) Elevation
- Grid Stake Set
- G Concrete Equipment Foundation ID
- SUMP (9) Concrete Filled Sump ≥ 50 mg/kg PCBs
- Dispose as Concrete ≥ 0.24 mg/kg PCBs
- Dispose as Concrete ≥ 50 mg/kg PCBs

Note: All Concrete and Asphalt Within Limits of Work Shall Be Disposed Offsite

COMPRESSOR BUILDING GROUND LEVEL

NORTH CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet
Vertical Datum: Ventura Co. NAVD88
Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Concrete Demolition and Disposal Plan

Source:	Revision:	Date:	Figure:
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LEGEND

- Edge of Pavement
- I — Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- ×(xxx xx) — Elevation
- ▲ — Grid Stake Set
- G — Concrete Equipment Foundation ID
- SUMP (9) — Concrete Filled Sump
- Crawlspace Concrete ≥ 0.24 mg/kg PCBs
- Crawlspace Concrete ≥ 1.0 mg/kg PCBs
- Crawlspace Concrete ≥ 50 mg/kg PCBs
- Proposed PCB Characterization Sample

Note: All Concrete and Asphalt Within Limits of Work Shall Be Disposed Offsite (see Figure 14)

COMPRESSOR BUILDING GROUND LEVEL

NORTH CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet

Vertical Datum: Ventura Co. NAVD88

Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Confirmation Sampling Plan
Soil Under Paved Areas

Source:	Revision:	Date:	Figure:
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Table 16: Soil Under Paved Areas Sampling Schedule

Sample ID	Duplicate Sample
EF18.5	
EF19.5	
EF20.5	XY67.5
EF21.5	
EF24.5	
EF25.5	
EF26.5	
EF27.5	
FG18.5	
FG19.5	
FG20.5	
FG21.5	
FG24.5	
FG25.5	
FG26.5	
FG27.5	
GH6.5	
GH7.5	
GH12.5	
GH13.5	
GH15.5	
GH16.5	
GH17.5	
GH19.5	
GH20.5	
GH21.5	XY68.5
GH23.5	
GH24.5	
GH25.5	
GH26.5	
GH27.5	
GH30.5	

Sample ID	Duplicate Sample
GH31.5	
HI6.5	
HI7.5	
HI12.5	
HI13.5	
HI15.5	
HI16.5	
HI17.5	
HI19.5	
HI20.5	
HI21.5	XY69.5
HI23.5	
HI24.5	
HI25.5	
HI26.5	XY70.5
HI27.5	
HI28.5	
HI29.5	
HI30.5	
HI31.5	
IJ12.5	
IJ13.5	
IJ14.5	
IJ15.5	
IJ16.5	
IJ17.5	XY71.5
IJ18.5	
IJ19.5	
IJ20.5	
IJ21.5	
IJ22.5	
IJ23.5	

Sample ID	Duplicate Sample
IJ24.5	
IJ25.5	
IJ26.5	XY72.5
IJ27.5	
IJ28.5	XY73.5
IJ29.5	
IJ30.5	
IJ31.5	XY74.5
JK13.5	
JK14.5	
JK15.5	
JK16.5	
JK17.5	
JK18.5	
JK20.5	
JK22.5	
JK23.5	
JK24.5	
JK27.5	
JK28.5	
JK29.5	XY75.5
JK30.5	
JK31.5	
KL13.5	XY76.5
KL14.5	
KL15.5	XY77.5
KL16.5	
KL17.5	
KL18.5	
KL19.5	
KL22.5	
KL23.5	

Sample ID	Duplicate Sample
KL24.5	
LM13.5	
LM14.5	
LM15.5	
LM16.5	
LM17.5	
LM18.5	
LM19.5	XY78.5
LM22.5	
LM23.5	XY79.5
LM24.5	
MN14.5	
MN15.5	
MN18.5	
MN19.5	
MN20.5	
MN21.5	
MN22.5	
MN23.5	
MN24.5	
RS18.5	
RS19.5	
ST18.5	
ST19.5	
ST20.5	
ST21.5	
TU18.5	
TU19.5	
TU20.5	
TU21.5	

5.4 Concrete-filled Sumps

During the initial work to remove oily liquids and residues noted during an August 2013 site inspection by USEPA, nine in-ground sumps containing oily liquid and sludge were identified in the crawl space of the Compressor Building. Oily liquid and sludge was removed from these sumps in September 2013 and the sumps were subsequently filled with concrete. The presence of PCBs in the Compressor Building oily waste samples was not known at the time, therefore, no PCB characterization sampling was conducted prior to filling the sumps with concrete.

Typical Concrete Filled Sump

The concrete filled sumps will be removed once they are accessible during demolition of the building. Because the sumps cannot be adequately characterized in accordance with Subpart N having been filled with concrete prior to sampling, the concrete will be presumed to be > 50 mg/kg PCBs and will be disposed at the Waste Management Kettleman Hills Landfill as hazardous (TSCA) waste using existing profile CA608683.[33]

A single soil sample will be collected below each of the sumps pursuant to Subpart N. Soil samples will be collected using methods similar to those described in Section 5.1.3. Due to the depth of the sumps samples will be retrieved from an excavator bucket.

Where soil sample results exceed the 0.24 mg/kg PCB project action level, additional excavation and re-sampling will be performed until this criterion is met.

The locations of the concrete filled sumps are shown on Figure 15. Table 17 includes a summary of the soil samples and randomly selected duplicates to be collected from below the sumps.

[33] §761.61(a)(5)(i)(B)(2)(i)

Table 17: Concrete Filled Sumps Confirmation Sample Schedule

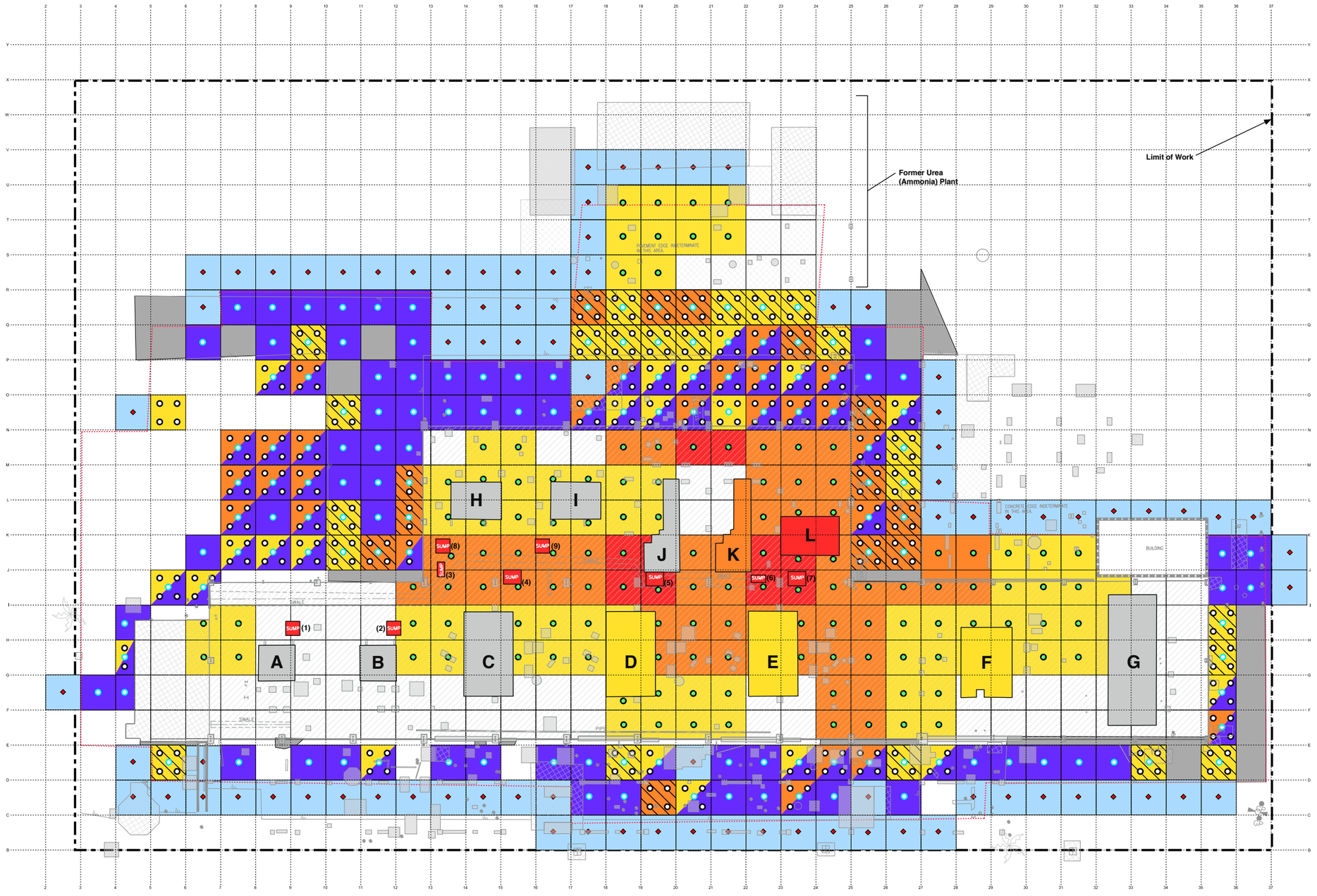
Sample ID	Duplicate Sample
SUMP01	
SUMP02	
SUMP03	
SUMP04	
SUMP05	
SUMP06	SUMP10
SUMP07	
SUMP08	
SUMP09	

5.5 Composite Sketch

Figure 16 provides an overall composite view of the surface contamination and sampling plan for the Compressor Building PCB cleanup.

5.6 Reporting

A report of findings will be prepared as an additional addendum to the *Self-implementing PCB Cleanup Plan* and submitted to EPA for review and approval upon completion of the work described in this addendum.



LEGEND

- Edge of Pavement
- Building Column (I-Beam)
- Fire Hydrant
- Guard Post (Bollard)
- Valve
- Riser
- Drain Inlet (Square)
- Drain Inlet (Round)
- Concrete Foundation/Pedestal
- Concrete Floor Deck
- Concrete Pad
- Concrete Wall
- Asphalt Pavement (Approx,)
- Limit of PCB Remediation (Dudek 2014)
- Limit of Work
- ×(xxx xx) Elevation
- Grid Stake Set
- G Concrete Equipment Foundation ID
- SUMP (9) Concrete Filled Sump
- Surface Sample ≥ 0.24 mg/kg PCBs
- Surface Sample ≥ 1.0 mg/kg PCBs
- Surface Sample ≥ 50 mg/kg PCBs
- Surface Sample ≥ 80 mg/kg Pb
- No Pb Analysis Performed
- Additional (Step Out) Surface Sampling Location
- Proposed Pb Confirmation Sample
- Proposed PCB Characterization Sample
- Proposed PCB Confirmation Samples
  1.5m Composite Sample Set
  (One set per original 3m grid cell)

COMPRESSOR BUILDING GROUND LEVEL

NORTH
CCS83

0 15 30 Feet

Scale: 1 inch = 30 feet
Vertical Datum: Ventura Co. NAVD88
Grid Interval = 3 meters

DESTRIER

Former USA Petrochem Refinery
4777 Crooked Palm Road
Ventura, California

Surface Contamination and Sampling Plan Composite View

Source:	Revision:	Date:	Figure:
KDM Meridian Feb 2016	1	08/01/16	**16**

Attachment A

Data Validation

Attachment A
Data Validation
Batches L839319, L839518, L840178 and L840421

1.0 Data Validation Summary

As part of the data validation process, it is the analytical laboratory's responsibility to establish and continually demonstrate the performance of its analytical processes and instrumentation. Analytical reports are reviewed and the resultant analytical results are validated against various performance criteria.

Analytical reports are reviewed along with batch controls to validate the usability of the sample results used to guide remedial decisions and remediation efficacy and completion. As the related report is developed, limitations associated with the analytical data are evaluated and discussed in context with corrective action(s).

Data validation is generally defined as the procedures used to determine whether analytical testing meets the performance criteria for the analytical method used. In the event there are impacts associated with the performance criteria, such impacts are qualified typically using appending qualifiers on the affected data points. Such qualifiers may indicate that the data may be considered estimated, not detected, or rejected.

Data usability is the process of evaluating the data validation results and determining the level of confidence in which the data can be used. Usability is determined by evaluating the data, and its qualifiers, with the analytical laboratory quality control results. If the laboratory quality control results fall within accepted performance criteria, the corresponding sample values are considered to have a high degree of confidence that the data are usable for the intended purpose. If the laboratory quality control results indicate otherwise, the data may be qualified or rejected, and not used in the remedial decision making process.

2.0 Analytical Methods[34]

The analytical methods used for analyses applicable to this validation summary include:

- *Polychlorinated biphenyls (PCBs):* EPA Method 8082, PCBs by Gas Chromatography.
- *Metals (Total Lead, Total Cadmium):* EPA Method 6010B, Inductively Coupled Plasma—Atomic Emission Spectrometry.
- *Solubility Threshold Limit Concentration (STLC) Preparation:* California Waste Extraction Test (WET), Title 22 Appendix II.[35]
- *Toxicity Characteristic Leaching Procedure (TCLP) Preparation:* EPA Method 1311.
- *Total Solids*: EPA Method 2540, G-2011.

[34] Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA Publication SW-846, Final Update IV, 2008.

[35] California Code of Regulations, Title 22, Division 4.5, Chapter 11, Appendix II

3.0 Analytical Batches

The analytical batches incorporated into this validation summary include:

- *Batch L839319 (Perimeter Soil and Asphalt)* – PCBs, Total Pb, Total Cd, STLC Metals (Pb, Cd), TCLP Metals (Pb)
- *Batch L839518 (Floor Deck Concrete)* – PCBs, Total Pb, Total Cd
- *Batch L840178 (Crawlspace and Perimeter Concrete)* – PCBs, Total Pb, Total Cd, STLC Metals (Pb), TCLP Metals (Pb)
- *Batch L840421 (Concrete Equipment Foundations)* – PCBs, Total Pb, Total Cd, STLC Metals (Pb)

4.0 Containers and Preservation

Soil samples were collected in 2 oz. wide mouth, glass jars sealed with Teflon-lined plastic caps. The laboratory provided pre-cleaned containers for soil samples. Sample preservation consisted of cooling to 4°C using (wet) ice. No other preservatives were used.

5.0 Sample Packaging and Shipment

Samples were shipped by common courier (FedEx) to ESC Lab Sciences in Mount Juliet, Tennessee. Samples were chilled to 4°C using wet ice and placed in reusable coolers. Samples and ice were enclosed in separate resealable plastic bags. Custody seals were not used.

6.0 Sample Documentation and Custody

Sample containers were recorded on chain-of-custody forms generated by Destrier. The custody record included the sample identification number, the date and time sampled, analyses requested, sample matrix, type of container, and preservatives used, if any. Additionally, the custody form recorded the identity of the sampling technician and documented by countersignature the continuous chain-of-custody of the samples.

7.0 Field Duplicate Samples

Field duplicate samples are split samples that are divided into to two containers for individual analysis. The samples are typically assigned unique identification numbers so that laboratory personnel cannot identify the samples as duplicates. Field duplicate samples are collected to assess sampling and analysis precision.

Duplicate samples were collected at a frequency of 10% for the primary samples collected. Duplicate samples are compared by evaluating their relative percent difference (RPD). Samples reported as "ND" are not evaluated for relative percent differences. RPD is calculated by the formula:

$$RPD = (|SAMPLE_A - SAMPLE_B|)/((SAMPLE_A + SAMPLE_B)/2)$$

As a general rule, RPD values are considered to be of concern if they are above 50%. Samples with reported analyte concentrations above the method detection limit (MDL) but below the reported detection limit (RDL) can produce greater variability, leading to greater RPDs. RPD values are considered non-representative when the following conditions exist:

- *Both the original and duplicate results are less than five times the reporting limit.*

- *One or both results are qualified as estimated or rejected or are suspected of blank contamination.*
- *One or both results are not detected at the reporting limit.*

The duplicate sample results and relative percent differences between the duplicate samples with detectable concentrations of target constituents is shown on Tables A1 through A6, below. While some RPD values are above 50%, this is more likely to reflect the heterogeneity of contaminants in the field samples rather than anomalies regarding field sampling precision.

8.0 Chain of Custody, Preservation and Storage

Samples are subject to evaluation upon receipt at the laboratory for proper chain of custody documentation and preservation. Samples were received intact and undamaged by the laboratory and were accompanied by properly executed chain of custody forms. Custody seals were not used.

9.0 Holding Times

Samples collected during the investigation were extracted and analyzed by the laboratory within the appropriate holding times.

10.0 Detection Limits

ESC Lab Sciences reports both a Method Detection Limit (MDL) and a Reported Detection Limit (RDL) for its sample analyses. The MDL is based on the theoretical lowest concentration of an analyte that is statistically quantifiable using the specific analytical method. The RDL is established by the laboratory above the MDL based on empirically determined limits of quantification for each analyte. The RDL provides a safety factor for the quantification of analyte concentrations given that the laboratory may experience variability associated with analyzing samples from a wide variety of sources with different complicating factors such as matrix effects and dilution factors.

All samples in the referenced batches were reported with RDLs sufficiently below the project cleanup criteria and/or below the corresponding regulatory waste classification criteria to permit adequate evaluation of the data versus these criteria.

Analytes identified in a samples above the MDL but below the RDL are considered to be present (qualified) but are at too low of a concentration to be adequately quantified. These analytes are reported at their estimated concentration and flagged indicating that identification of the analyte is acceptable but the reported value is an estimate ("J" flag). Estimated values identified in the data are noted below:

- *Batch L839319* - PCB samples flagged as estimated ("J") include laboratory sample numbers: 11, 12, 26, 49, 53, 56, 100, 110, 124, and 147. The estimated concentrations for these samples are between the MDL and the RDL values and are sufficiently below the project cleanup criteria for PCBs to be considered valid and usable.
- *Batch L839518* - PCB samples flagged as estimated ("J") include laboratory sample numbers: 01 and 25. The estimated concentrations for these samples are between the MDL and the RDL values and are sufficiently below the project cleanup criteria for PCBs to be considered valid and usable.

Table A1: Perimeter Soil and Asphalt PCB Duplicate Sample Results (mg/kg)

Duplicate Sample Pairs	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Relative Percent Difference (RPD)
CD20.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.401**	**0.99%**
YZ37.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.405**	
CD23.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**1.89**	**21.70%**
YZ38.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**2.35**	
DE10.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.0234**	**116.80%**
YZ39.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**0.0891**	
DE14.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.193**	**15.75%**
YZ40.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.226**	
DE23.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.498**	**41.78%**
YZ41.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.761**	
DE24.5	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	ND <0.0173	**0.894**	**79.76%**
YZ42.5	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	ND <0.0174	**2.08**	
DE27.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.205**	**64.91%**
YZ43.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**0.402**	
DE32.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0769**	**90.10%**
YZ44.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.203**	
JK25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**21.6**	**38.02%**
YZ45.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**14.7**	
KL7.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**1**	**96.10%**
YZ46.5	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	ND <0.0171	**2.85**	
MN9.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**0.489**	**99.64%**
YZ47.5	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	ND <0.0172	**1.46**	
NO25.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**2.13**	**110.32%**
YZ48.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**7.37**	
OP21.5	ND <0.0874	ND <0.0874	ND <0.0874	ND <0.0874	ND <0.0874	ND <0.0874	**2.34**	**8.59%**
YZ49.5	ND <0.0878	ND <0.0878	ND <0.0878	ND <0.0878	ND <0.0878	ND <0.0878	**2.55**	
PQ6.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.0733**	**4.92%**
YZ50.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.077**	
PQ8.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.111**	**10.26%**
YZ51.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.123**	
PQ21.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.149**	**123.69%**
YZ52.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.632**	
PQ23.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.761**	**47.11%**
YZ53.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.23**	
QR17.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**1.18**	**48.42%**
YZ54.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.72**	
QR18.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.563**	**47.32%**
YZ55.5	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	ND <0.017	**0.912**	
							Average:	**53.31%**

Table A2: Concrete Equipment Foundations PCB Duplicate Sample Results (mg/kg)

Duplicate Sample Pairs	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Relative Percent Difference (RPD)
FNDA-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0151**	**32.31%**
FNDA-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0109**	
FNDC-T	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.051**	**130.63%**
FNDC-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0107**	
FNDE-S	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.289**	**21.05%**
FNDE-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.357**	
FNDH-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.053**	**16.13%**
FNDH-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0623**	
FNDJ-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.044**	**50.36%**
FNDJ-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0263**	
FNDK-N	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.116**	**67.43%**
FNDK-D	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.234**	

Average: **45.42%**

Table A3: Crawlspace and Perimeter Concrete PCB Duplicate Sample Results (mg/kg)

Duplicate Sample Pairs	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Relative Percent Difference (RPD)
CS-H13	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.482**	**13.51%**
CS-Z1	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.421**	
CS-H17	<0.0235	<0.0235	<0.0235	<0.0235	<0.0235	<0.0235	**0.231**	**51.92%**
CS-Z2	<0.0415	<0.0415	<0.0415	<0.0415	<0.0415	<0.0415	**0.393**	
CS-H27	<0.0247	<0.0247	<0.0247	<0.0247	<0.0247	<0.0247	**0.945**	**49.18%**
CS-Z3	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.572**	
CS-H35	<0.0202	<0.0202	<0.0202	<0.0202	<0.0202	<0.0202	**0.159**	**12.00%**
CS-Z4	<0.0241	<0.0241	<0.0241	<0.0241	<0.0241	<0.0241	**0.141**	
CS-J15	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	**11.2**	**41.13%**
CS-Z5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**17**	
CS-N13	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.0798**	**30.93%**
CS-Z6	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.109**	

Average: **28.38%**

Table A4: Concrete Floor Deck PCB Duplicate Sample Results (mg/kg)

Duplicate Sample Pairs	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	Relative Percent Difference (RPD)
FD-AB15.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.223**	**19.80%**
FD-EF16.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.272**	
FD-BC5.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.669**	**61.99%**
FD-EF17.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**1.27**	
FD-DE8.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.141**	**31.14%**
FD-EF18.5	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	**0.193**	

Average: **28.23%**

Table A5: Perimeter Soil and Asphalt Cd and Pb Duplicate Sample Results (mg/kg)

Duplicate Sample Pairs	Total Cd	RPD	Total Pb	RPD	STLC Pb	RPD
CD20.5			1500	25.58%		
YZ37.5			1940			
CD23.5			2020	106.06%		
YZ38.5			620			
DE10.5			176	82.84%		
YZ39.5			72.9			
DE14.5			1460	39.05%		
YZ40.5			983			
DE23.5			1340	58.95%		
YZ41.5			2460			
DE24.5			1090	73.99%		
YZ42.5			2370			
DE27.5			2330	21.90%		
YZ43.5			1870			
DE32.5			37.9	157.88%		
YZ44.5			322			
KL7.5			245	58.18%		
YZ46.5			446			
MN9.5	1.43	17.25%	279	24.10%	5.47	10.40%
YZ47.5	1.7		219		6.07	
OP21.5			1810	48.80%		
YZ49.5			1100			
PQ6.5			112	59.26%		
YZ50.5			60.8			
PQ8.5			52.8	42.51%		
YZ51.5			81.3			
PQ21.5	2.74	8.06%	857	37.30%		
YZ52.5	2.97		1250			
	Average:	12.65%	Average:	59.74%	Average:	10.40%

Table A6: Concrete Cd and Pb Duplicate Sample Results (mg/kg)

Duplicate Sample Pairs	Total Cd	RPD	Total Pb	RPD
FD-BC5.5	**0.772**	**33.94%**	**30.4**	**22.30%**
FD-EF17.5	**0.548**		**24.3**	
CS-H13	**0.581**	**4.05%**	**30.3**	**4.52%**
CS-Z1	**0.605**		**31.7**	
	Average:	**18.99%**	**Average:**	**13.41%**

- *Batch L840178* - PCB samples flagged as estimated ("J") include laboratory sample numbers: 02, 03, 05, 06, 07, The estimated concentrations for these samples are between the MDL and the RDL values and are sufficiently below the project cleanup criteria for PCBs to be considered valid and usable.
- *Batch L840421* - PCB samples flagged as estimated ("J") include laboratory sample numbers: 03, 04, 13, 15, 18, and 31. The estimated concentrations for these samples are between the MDL and the RDL values and are sufficiently below the project cleanup criteria for PCBs to be considered valid and usable.

11.0 Method Blanks

A method blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as used in the sample processing. This blank is used to assess and document any contamination that may be introduced during the analytical process. Samples where an analyte is also detected in the method blank are flagged "B" if the target analyte concentration in the sample is less than ten times the concentration found in the blank.

Target analytes detected in method blank samples at or above the applicable method detection limits are documented below:

- *Batch L839319 Total Lead (880215)* – Lead was detected in the method blank associated with laboratory sample number 195 at a concentration of 0.191 mg/kg. The associated sample was reported to contain total at a concentration significantly higher than the value found in the method blank (1,310 mg/kg). The associated sample is not flagged "B" since this concentration is greater than ten times the concentration found in the blank. The method blank concentration of lead is well below the STLC criteria of 5 mg/l. The sample concentration is above the TTLC criteria and the sample was further tested using TCLP.

12.0 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

MS/MSDs are two aliquots of a sample spiked with known concentrations of method-specific target analytes used to evaluate the method performance in the specific matrix of interest. The concentration recoveries and RPDs are evaluated to assess the accuracy and precision of the sample data.

MS/MSD recovery issues by batch are noted below:

- *Batch L839319* – The analytical results for original sample -05 are flagged O1 V. The analyte failed the method required serial dilution test and/or post-spike criteria due to matrix interferences. Further, the sample concentration is too high to evaluate accurate spike recoveries.
- *Batch L839319* – The MS/MSD RPD for lead for the batch QC associated with laboratory sample number -195 is outside of the established laboratory quality control range for precision (127% vs. 20%). The samples associated with this QC batch is flagged "J3 V". MS and MSD recoveries were also outside of laboratory control limits for this sample given the original sample concentrations are too high to report accurate MS/MSD recoveries. The associated sample data is qualified as "J3 V". The LCS/LCSD data are within control limits. The associated sample results and data are valid and usable.
- *Batch L839319 PCB (WG877704)* – The MS/MSD RPD for PCB 1260 for the batch QC associated with laboratory sample numbers -67 through -86 was outside of the established laboratory quality control range for precision (28.6% vs. 20%). Samples associated with this QC batch are flagged "J3". MS/MSD and surrogate recoveries were both within

laboratory control limits for this analyte. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.

- *Batch L839319 PCB (WG877705)* – The MS/MSD spike recoveries for PCB 1260 for the batch QC associated with laboratory sample numbers -87 through -106 could not be accurately calculated due to the original sample concentrations. Samples associated with this QC batch are flagged "V". MS/MSD RPDs and surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L839319 PCB (WG877706)* – The MSD spike recovery for PCB 1260 for the batch QC associated with laboratory sample numbers -107 through -121 was high due to matrix interference. Samples associated with this QC batch are flagged "J5". MS/MSD RPDs and surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L839319 PCB (WG877707)* – The MS/MSD spike recoveries for PCB 1260 for the batch QC associated with laboratory sample numbers -127 through -141 are too high due to matrix interference. Samples associated with this QC batch are flagged "V". MS/MSD RPDs and surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L839319 PCB (WG877709)* – The MS/MSD spike recoveries for PCB 1260 for the batch QC associated with laboratory sample numbers -147 through -161 are too high due to matrix interference. Samples associated with this QC batch are flagged "V". MS/MSD RPDs and surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD and surrogate recoveries are within control limits, but RPD limits are outside control limits for precision. The associated sample results and the data are valid and usable.
- *Batch L839319 PCB (WG877710)* – The MS/MSD spike recoveries for PCB 1260 for the batch QC associated with laboratory sample numbers -167 through -181 are too high due to matrix interference. Samples associated with this QC batch are flagged "V". MS/MSD RPDs and surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD and surrogate recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L839319 PCB (WG877711)* – The MS/MSD spike recovery for PCB 1260 for the batch QC associated with laboratory sample numbers -187 through -201 are too high due to matrix interference. Samples associated with this QC batch are flagged "J5". The MSD RPDs is not within control limits for precision. Corresponding surrogate recoveries and the LCS/LCSD and surrogate recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L839518 PCB (WG878450)* – The MSD RPD for PCB 1016 for the batch QC associated with laboratory sample numbers -21 through -31 was outside of the established laboratory quality control range for precision (37.0% vs. 25.8%). Samples associated with this QC batch are flagged "J3". MS/MSD and surrogate recoveries were both within laboratory control limits for this analyte. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L840178 PCB (WG878825)* – The MS/MSD for PCB 1016 are too high due to matrix interference for laboratory sample numbers -01 through -15. In addition, the MSD RPD was outside of the established laboratory quality control range for precision (28.8% vs.

25.8%). Samples associated with this QC batch are flagged "J3 J5". MS/MSD surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.

- *Batch L840178 PCB (WG878948)* – The MS/MSD spike recovery for PCB 1260 and PCB 1016 for the batch QC associated with laboratory sample numbers -36 through -53 are too high due to matrix interference. The MS/MSD RPDs are not within control limits for precision. Samples associated with this QC batch are flagged "J3 V". Corresponding surrogate recoveries and the LCS/LCSD and surrogate recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L839518 PCB (WG880668)* – The MS/MSD for the batch QC associated with laboratory sample numbers -16 through -35 was not reported due to insufficient sample volume.
- *Batch L840421 PCB (WG879179)* – The MS/MSD for PCB 1016 are too high due to matrix interference for laboratory sample numbers -61 through -62. In addition, the MSD RPD was outside of the established laboratory quality control range for precision (42.0% vs. 25.8%). Samples associated with this QC batch are flagged "J3 J5". MS/MSD surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.
- *Batch L840421 PCB (WG879187)* – The MSD for PCB 1016 is too low due to matrix interference for laboratory sample numbers -01 through -20. Samples associated with this QC batch are flagged "J6". MS/MSD surrogate recoveries and RPDs were within laboratory control limits. Corresponding LCS/LCSD recoveries are within control limits, with discrepancies in RPDs noted below, resulting in the flag "J3". The associated sample results and the data are valid and usable.
- *Batch L840421 PCB (WG879274)* – The MS/MSD for PCB 1260 and PCB 1016 are too high due to matrix interference for laboratory sample numbers -41 through -60. In addition, the RPDs are outside of the established laboratory quality control range for precision (77.5% and 48.5 vs. 20% and 25.8%, respectively). Samples associated with this QC batch are flagged "J3 V". MS/MSD surrogate recoveries were both within laboratory control limits. Corresponding LCS/LCSD recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.

13.0 Laboratory Control Samples/Duplicates (LCS/LCSD)

The LCS/LCSD is a spiked sample that is used to evaluate laboratory performance of the overall analytical approach in a matrix free of interferences (e.g., in reagent water, clean sand, or another suitable reference matrix). The LCS results are used in conjunction with MS/MSD results to separate issues of laboratory performance and "matrix effects". The LCS/LCSD is evaluated against laboratory-specific control limits and must be within acceptable ranges.

All LCS/LCSD recoveries were within the appropriate control criteria except as noted below:

- *Batch L839319 PCB (WG877709)* – The LCS/LCSD RPD for PCB 1260 and PCB 1016 for the batch QC associated with laboratory sample numbers -147 through -161 are outside of the established laboratory quality control range for precision (50.3% and 51.5% vs. 27% and 27.5%, respectively). Associated samples are flagged "J3". Corresponding LCS/LCSD

recoveries and RPDs are within control limits. The associated sample results and the data are valid and usable.

- *Batch L840178 PCB (WG880668)* – The LCSD RPD for PCB 1016 for the batch QC associated with laboratory sample numbers -16 through -35 os outside of the established laboratory quality control range for precision (36.2% vs. 27%). Associated samples are flagged "J3". Corresponding LCS/LCSD recoveries and surrogates are within control limits. The associated sample results and the data are valid and usable.
- *Batch L840421 PCB (WG879187)* – The LCSD RPDs for PCB 1260 and PCB 1016 for the batch QC associated with laboratory sample numbers -01 through -20 are outside of the established laboratory quality control range for precision (31.3% and 32.0% vs. 27% and 27.5%, respectively). Associated samples are flagged "J3". Corresponding LCS/LCSD recoveries and surrogates are within control limits. The associated sample results and the data are valid and usable.

14.0 Surrogate Recoveries

Surrogates are compounds not normally found in environmental samples that are added to all samples undergoing gas chromatography (GC) analyses. These compounds are chemically similar to the analytes of interest, and are used to monitor the method performance with respect to the sample matrix. The method performance is evaluated by comparing the actual resulting surrogate recoveries with the method specified acceptance limits. No surrogate recovery issues were noted in the four QC batches associated with this report. Surrogate recoveries for certain analytes associated with original sample testing are flagged as appropriate and are primarily due to matrix interferences. Associated data is valid and usable.

15.0 Data Usability

The results of the data validation and verification indicate that the data presented herein are valid and usable for their intended purpose of determining cleanup efficacy or for establishing or confirming waste profile classification.

Attachment B

Laboratory Analytical Report
Perimeter Soil and Asphalt
(Batch L839319)
June 2016

This Attachment Provided Under Separate Cover
Due To File Size Limitations

Attachment C

Laboratory Analytical Report
Floor Deck Concrete
(Batch L839518)
June 2016

This Attachment Provided Under Separate Cover
Due To File Size Limitations

Attachment D

Laboratory Analytical Report
Crawlspace and Perimeter Concrete
(Batch L840178)
June 2016

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Due To File Size Limitations

Attachment E

Laboratory Analytical Report
Concrete Equipment Foundations
(Batch L840421)
June 2016

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Due To File Size Limitations